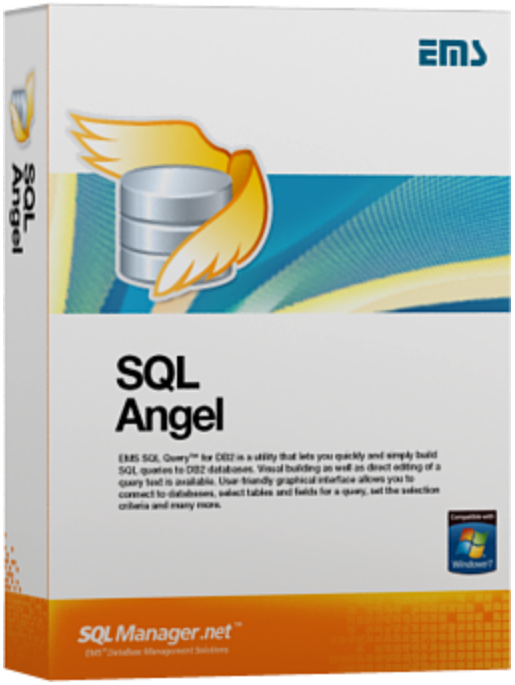
SQL Manager.net™

EMS® Database Management Solutions



SQL Angel
User's Manual

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SQL Angel
User's Manual

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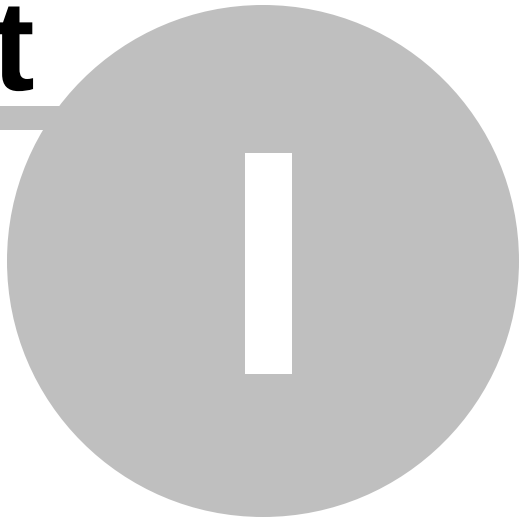
Part



1 Welcome to SQL Angel!

EMS SQL Angel is a powerful tool for SQL server database administration and maintenance.

Visit our web-site for details: http://www.sqlmanager.net/

Key features:
- Compressing backup files up to 5 times (on any server version).
- Reducing backup time up to 4 times (on any server version).
- Backup encryption (on any server version).
- Support of Cloud Storages (FTP(SSL), SFTP(SSH), Windows network folders(CIFS), Amazon S3.
- Easy-to use wizard organizing the log shipping process.
- Ability to perform 8 types of service tasks including backup, log shipping, re-indexing, update statistics, etc.
- Policy engine to quickly deploy maintenance tasks to multiple servers and to monitor their execution results.
- Centralized monitoring of policies on multiple servers using the user-friendly GUI console.
- A high-performance multi-threaded backup.
- Working with Enterprise and BI versions of SQL Server.

Additional features:
- A set of standard templates for sample maintenance policies of server systems.
- Ability to import tasks of Management Studio for SQL Server.
- Ability to remotely install server components.
- Utility for converting backup files from SQL Angel to SQL Server formats.
- Intelligent Restore. Automatic history restore on a chosen date using available backup files.
- Backing up multiple databases to a single file.
- Multiple compression levels to achieve optimal balance between backup size and execution time.
- E-mail notification mechanism informing of the task performance results.
- Generating reports on service task results.
- Exporting Service tasks history to an external file.
- Unlimited number of remote and local storages for each backup.

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1.1 What's new

Version	Release date
SQL Angel 1.3	November 12 , 2013

What's new in SQL Angel?

1. Support of remote storages to upload and store backups.
   - Network folders, network-attached storages (NAS).
   - Upload using FTP (ImplicitSSL / ExplicitSSL), SFTP (SSH) protocols.
   - Support of cloud storage Amazon S3.
2. Possibility to add unlimited number of remote and local storages for each backup.
3. Support of 'Check orphaned users' option to restore backups.
4. New macros for backup folders: {backup_root_folder}, {server}.
5. Log efficiency and representation are improved.
6. Improved design.

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1.2 System requirements

SQL Angel Service

- Microsoft® Windows 2000, Microsoft® Windows 2000 Server, Microsoft® Windows XP, Microsoft® Windows 2003 Server, Microsoft® Windows 2008 Server, Microsoft® Windows Vista, Microsoft® Windows 7, Microsoft® Windows 8;
- SQL Server 2000, SQL Server 2005, SQL Server 2008, SQL Server 2012
- Automated launch of service tasks is impossible in SQL Server Express edition
- .Net Framework 3.5;
- 1024 MB RAM or more;
- 70MB of available HD space for program installation.

SQL Angel Administration Console

- Microsoft Windows 2000, Microsoft Windows 2000 Server, Microsoft Windows XP, Microsoft Windows 2003 Server, Microsoft Windows 2008 Server, Microsoft Windows Vista, Microsoft Windows 7, Microsoft® Windows 8;
- .Net Framework 3.5;
- 512 MB RAM or more;
- 120MB of available HD space for program installation;
- Super VGA (800x600) or higher-resolution video adapter and monitor; Super VGA (1024x768) or higher-resolution video adapter and monitor recommended;
- Microsoft Mouse or compatible pointing device.

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1.3 Feature Matrix

The *Regular version* of SQL Angel does not include all features of the *Pro version* ыand server maintenance tools. The detailed feature matrix is given below.

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1.4 Installation

If you are **installing SQL Angel for the first time** on your PC:

- download the SQL Angel installation package from the download page available at our site;
- unzip the downloaded file to any local directory, e.g. *C:\unzipped*;
- run *SQLAngelSetup.exe* from the local directory and follow the instructions of the installation wizard.
  There are two modes of the SQL Angel Console installation: *Typical* и *Custom*. If you choose the *Custom* mode then you will be able to define the destination program folder and specify if the help-file should be copied there or not.

After the installation process is completed, find the SQL Angel shortcut in the corresponding group of Windows Start menu.

If you want to **upgrade an installed copy of SQL Angel** to the latest version:

- download the full installation package of SQL Angel from the download page available at our site;
- close SQL Angel application if it is running;
- repeat the steps you have made for the first-time installation;
- run SQL Angel using its shortcut in the corresponding group of Windows Start menu.

Note:
There is an installation mode that allows installing server components on local servers without installing SQL Angel Console.
This mode should be used when a remote installation of server components from SQL Angel Console is impossible due to some reasons but at the same time the installation package can be copied to a server and run there.
To run the server-side components installation using the Stand-alone remote components Installer choose the *Server-side only* on the third step of the installation wizard.

See also:
EMS SQL Angel FAQ

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1.5 Purchasing

To make it easier for you to purchase our products, we have contracted with share-it! registration service. The share-it! order process is protected via a secure connection and makes on-line ordering by credit/debit card quick and safe. The following information about share-it! is provided for your convenience.

Share-it! is a global e-commerce provider for software and shareware sales via the Internet. Share-it! accepts payments in US Dollars, Euros, Pounds Sterling, Japanese Yen, Australian Dollars, Canadian Dollars or Swiss Franks by Credit Card (Visa, MasterCard/ EuroCard, American Express, Diners Club), Bank/Wire Transfer, Check or Cash.

If you have ordered EMS software online and would like to review your order information, or if you have questions about ordering, payments, or shipping procedures, please visit our Customer Care Center, provided by share-it!

Please note that all of our products are delivered via ESD (Electronic Software Delivery) only. After purchase you will be able to immediately download the registration keys or passwords and download links for archives of full versions. Also you will receive a copy of registration keys or passwords by e-mail. Please make sure to enter a valid e-mail address in your order. If you have not received the keys within 2 hours, please, contact us at sales@sqlmanager.net.

Note: You need to purchase license for every SQL server instance and not for the SQL Angel Console.

Product distribution	
EMS SQL Angel (Business Regular license) + 1-Year Maintenance*	Register Now!
EMS SQL Angel (Business Regular license) + 2-Year Maintenance*	
EMS SQL Angel (Business Regular license) + 3-Year Maintenance*	
EMS SQL Angel (Business Pro license) + 1-Year Maintenance*	
EMS SQL Angel (Business Pro license) + 2-Year Maintenance*	
EMS SQL Angel (Business Pro license) + 3-Year Maintenance*	
EMS SQL Angel (Non-commercial Regular license) + 1-Year Maintenance*	
EMS SQL Angel (Non-commercial Regular license) + 2-Year Maintenance*	
EMS SQL Angel (Non-commercial Regular license) + 3-Year Maintenance*	
EMS SQL Angel (Non-commercial Pro license) + 1-Year Maintenance*	
EMS SQL Angel (Non-commercial Pro license) + 2-Year Maintenance*	
EMS SQL Angel (Non-commercial Pro license) + 3-Year Maintenance*	
EMS SQL Angel (Trial version)	Download Now!

*__EMS Maintenance Program__ provides the following benefits:

- Free software bug fixes, enhancements, updates and upgrades during the maintenance period
- Free unlimited communications with technical staff for the purpose of reporting Software failures
- Free reasonable number of communications for the purpose of consultation on operational aspects of the software

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After your maintenance expires you will not be able to update your software or get technical support. To protect your investments and have your software up-to-date, you need to renew your maintenance.

You can easily reinitiate/renew your maintenance with our on-line, speed-through Maintenance Reinstatement/Renewal Interface. After reinitiating/renewal you will receive a confirmation e-mail with all the necessary information.

See also:

How to register SQL Angel

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1.6 How to register SQL Angel

The SQL Angel registration is not equal to immediate registration of the SQL Angel Console. Registering SQL Angel means purchasing and further activation of a received License Key for every instance you want to work with.

Having installed the client- and server–side parts of SQL Angel, you need to activate the server-side part of SQL Angel.
To get an activation code, please do the following:
1. Run SQL Angel.
2. Connect to SQL Server.
3. Right-click this server in the server list and select "Activate SQL Angel Service".
4. Follow the steps in the Wizard.

To remove a license from an instance use the Deactivate License Wizard. After that you will be able to activate this license key on another SQL Server instance.

License activation
License deactivation

See also:
Purchasing

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1.6.1 License activation

To start working with your servers you need to activate EMS SQL Angel License for each instance.
It is assumed that you have already purchased a product license and that you have the license information available. If you cannot find license information, please visit your Member Account https://secure.sqlmanager.net/member/subscribe.
The activation operation is performed by means of the License Activation Wizard.

To activate your newly purchased license, perform the following steps:
1. select the **Activate SQL Angel Service...** item of the server popup menu to run the License Activation Wizard;
2. select the preferable license activation method and complete the set of wizard steps;
3. make sure that the activation process has been completed successfully – check the license information in the overall status window and license must become *Active* in the Members Area.

Steps:
Selecting license activation method
Entering license key
Configuring connection settings
Performing online activation
Web-site activation
E-mail activation
Entering license activation code
Completing operation

See also:
Purchasing
License deactivation

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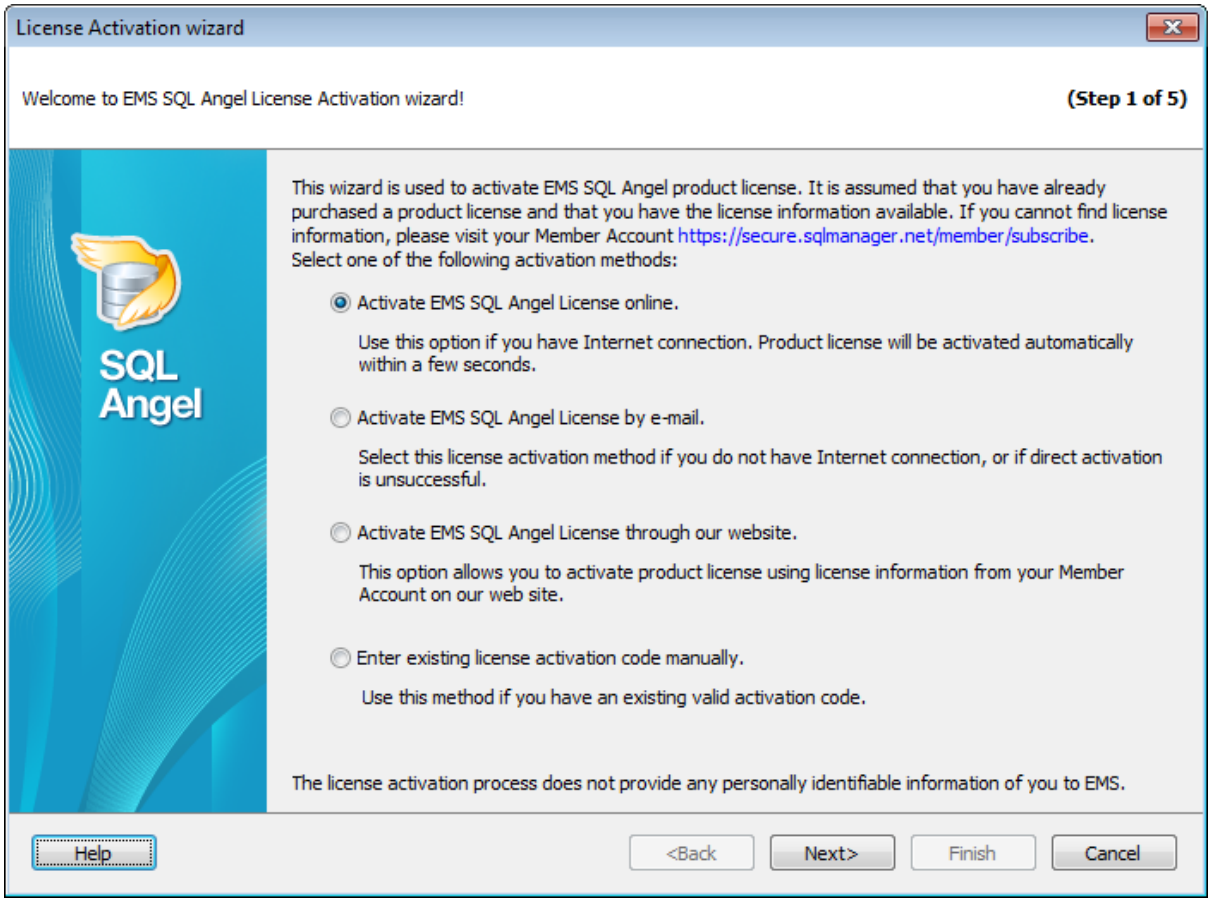
1.6.1.1 Selecting license activation method

Use this step to set license activation method.


License Activation wizard
Welcome to EMS SQL Angel License Activation wizard!
(Step 1 of 5)
SQL Angel
This wizard is used to activate EMS SQL Angel product license. It is assumed that you have already purchased a product license and that you have the license information available. If you cannot find license information, please visit your Member Account https://secure.sqlmanager.net/member/subscribe.
Select one of the following activation methods:
Activate EMS SQL Angel License online.
Use this option if you have Internet connection. Product license will be activated automatically within a few seconds.
Activate EMS SQL Angel License by e-mail.
Select this license activation method if you do not have Internet connection, or if direct activation is unsuccessful.
Activate EMS SQL Angel License through our website.
This option allows you to activate product license using license information from your Member Account on our web site.
Enter existing license activation code manually.
Use this method if you have an existing valid activation code.
The license activation process does not provide any personally identifiable information of you to EMS.
Help
<Back
Next>
Finish
Cancel

Activate EMS SQL Angel License online
Use this option if you have Internet connection. Product license will be activated automatically within a few seconds.

Activate EMS SQL Angel License by e-mail
Select this license activation method if you do not have Internet connection, or if direct activation is unsuccessful.

Activate EMS SQL Angel License through our website
This option allows you to activate product license using license information from your Member Account on our web-site.

Enter existing license activation code manually
Use this method if you have an existing valid activation code.

Next step in case of **online or e-mail activation**.
Next step in case of **website activation**.
Next step in case of **manual activation**.

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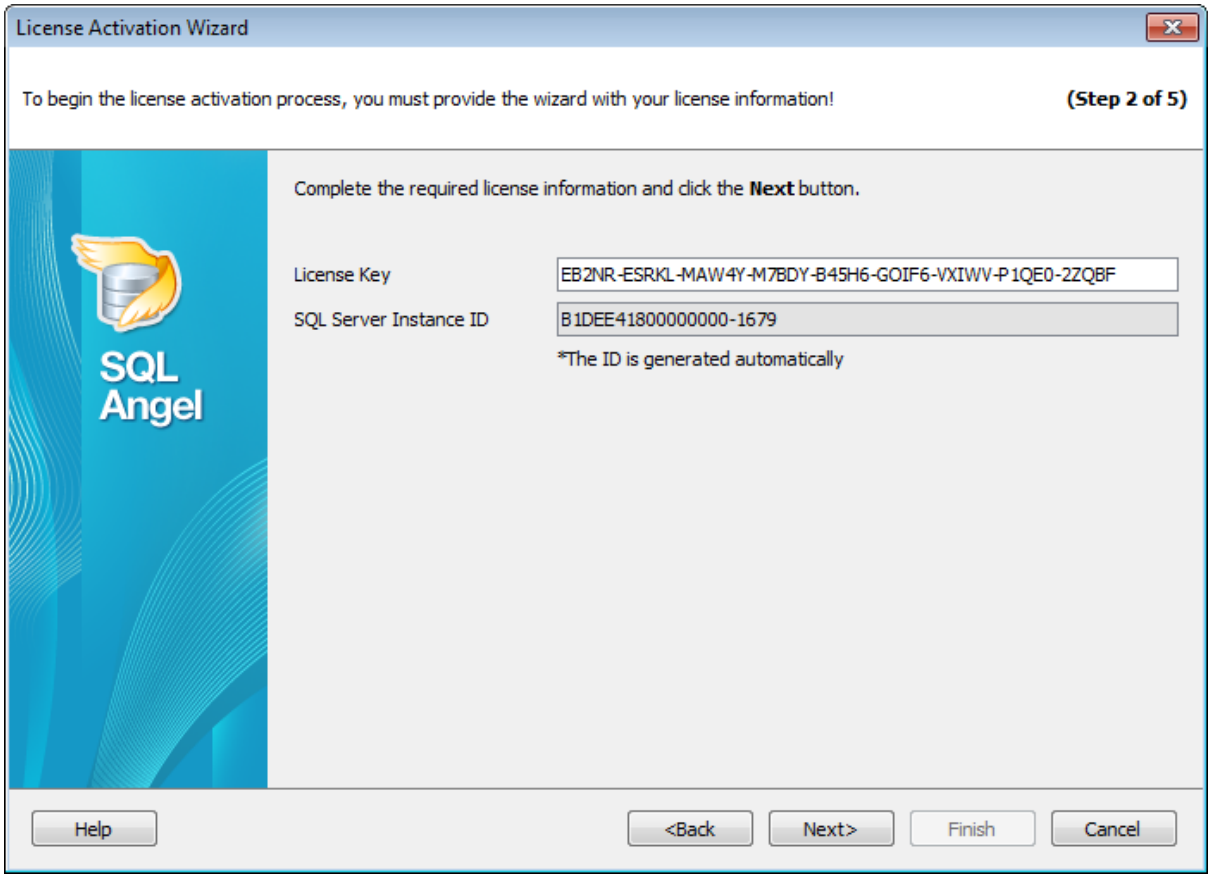
1.6.1.2 Entering license key

This step appears if you have chosen online or e-mail activation on the first step.



License Key
Enter manually or paste your license key here.
The license key can be copied from the Members Area or from the e-mail that is received after license purchasing.

SQL Server Instance ID
In this field you can see the registrable instance ID that was generated automatically.

These parameters are required to get a license activation code.

Next step in case of **online activation**.

Next step in case of **e-mail activation**.

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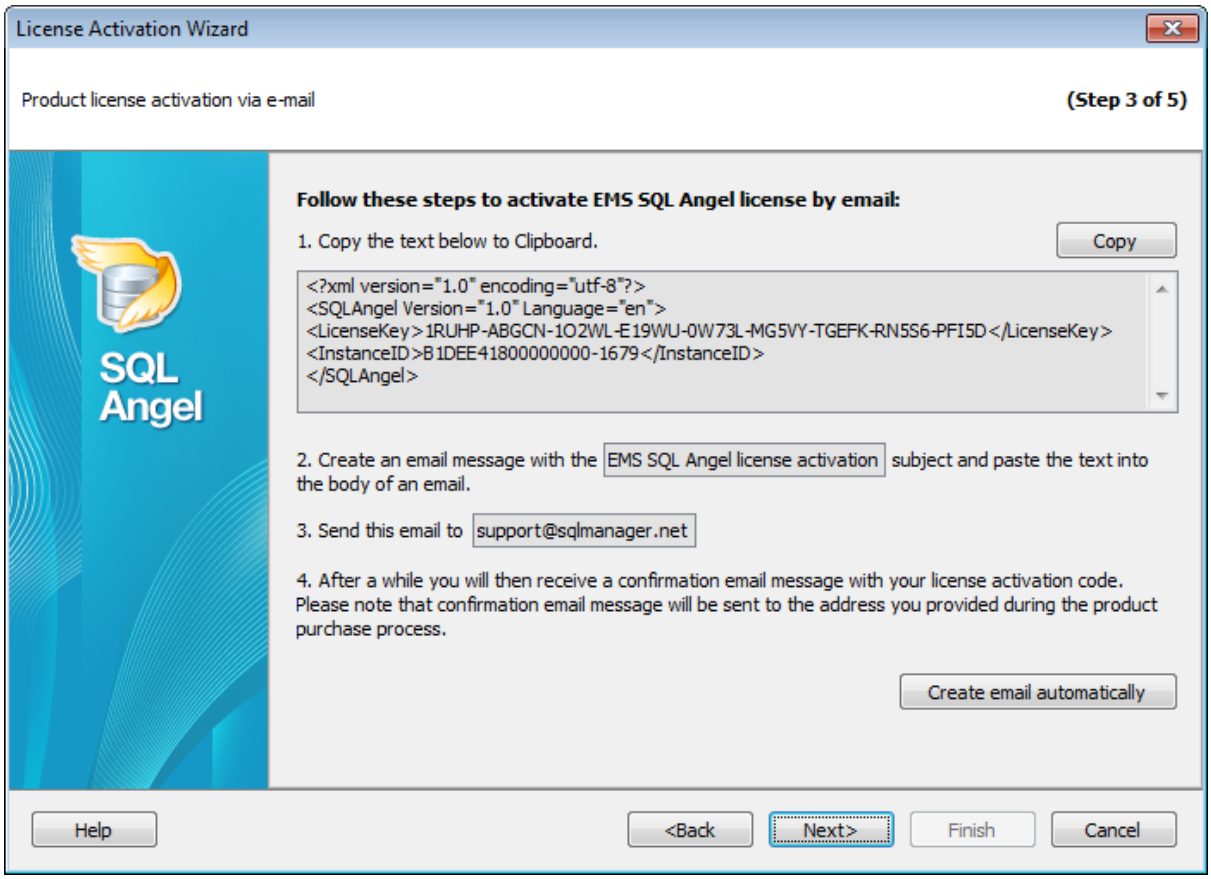
1.6.1.3 E-mail activation

This step appears only in case the **Activate EMS SQL Angel License by e-mail** option was selected on the first step.



To perform license activation via email follow these steps:

1. Copy text below to Clipboard.
2. Create an email message with the subject "EMS SQL Angel license activation" and paste the text into the body of an email.
3. Send this email to support@sqlmanager.net.
4. After a while you will then receive a confirmation email message with your license activation code.
   Please note that confirmation email message will be sent to the address you provided during the product purchase process.

If you press the **Create email automatically** button the required message will be generated automatically in the default email client.

Next step

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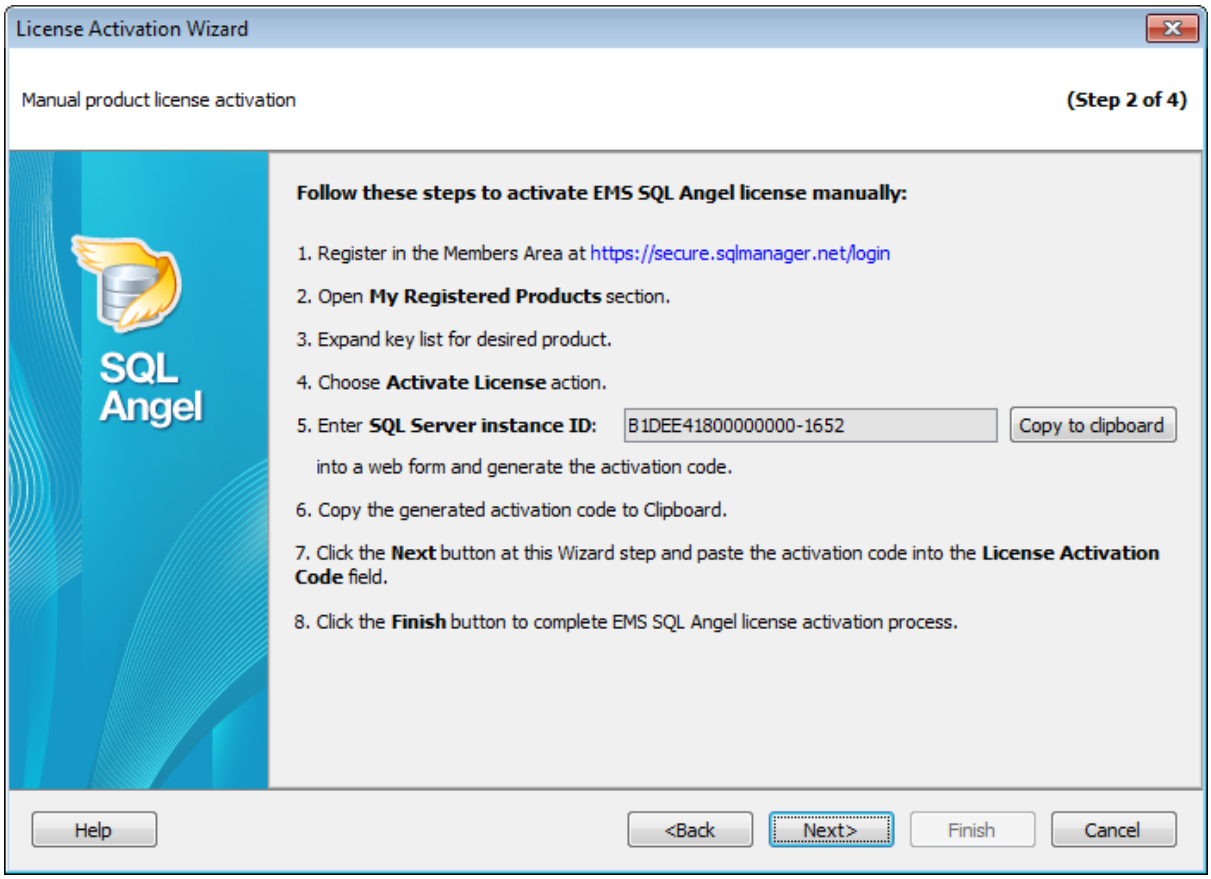
1.6.1.4 Web-site activation

This step appears only in case the **Activate EMS SQL Angel License through our website** option was selected on the first step.


License Activation Wizard
Manual product license activation
(Step 2 of 4)
SQL Angel
Follow these steps to activate EMS SQL Angel license manually:
1. Register in the Members Area at https://secure.sqlmanager.net/login
2. Open My Registered Products section.
3. Expand key list for desired product.
4. Choose Activate License action.
5. Enter SQL Server instance ID:
B1DEE41800000000-1652
Copy to clipboard
into a web form and generate the activation code.
6. Copy the generated activation code to Clipboard.
7. Click the Next button at this Wizard step and paste the activation code into the License Activation Code field.
8. Click the Finish button to complete EMS SQL Angel license activation process.
Help
<Back
Next>
Finish
Cancel

To perform license activation via web-site follow these steps:
1. Register in the Members Area at https://secure.sqlmanager.net/login.
2. Open **My Registered Products** section.
3. Expand key list for desired product.
4. Choose **Activate License** action.
5. Enter automatically generated **SQL Server instance ID** into a web form and generate the activation code.
6. Copy the generated activation code to Clipboard.
7. Click the **Next** button at this Wizard step and paste the activation code into the License Activation Code field at the next step.
8. Click the **Finish** button to complete EMS SQL Angel license process.

Next step

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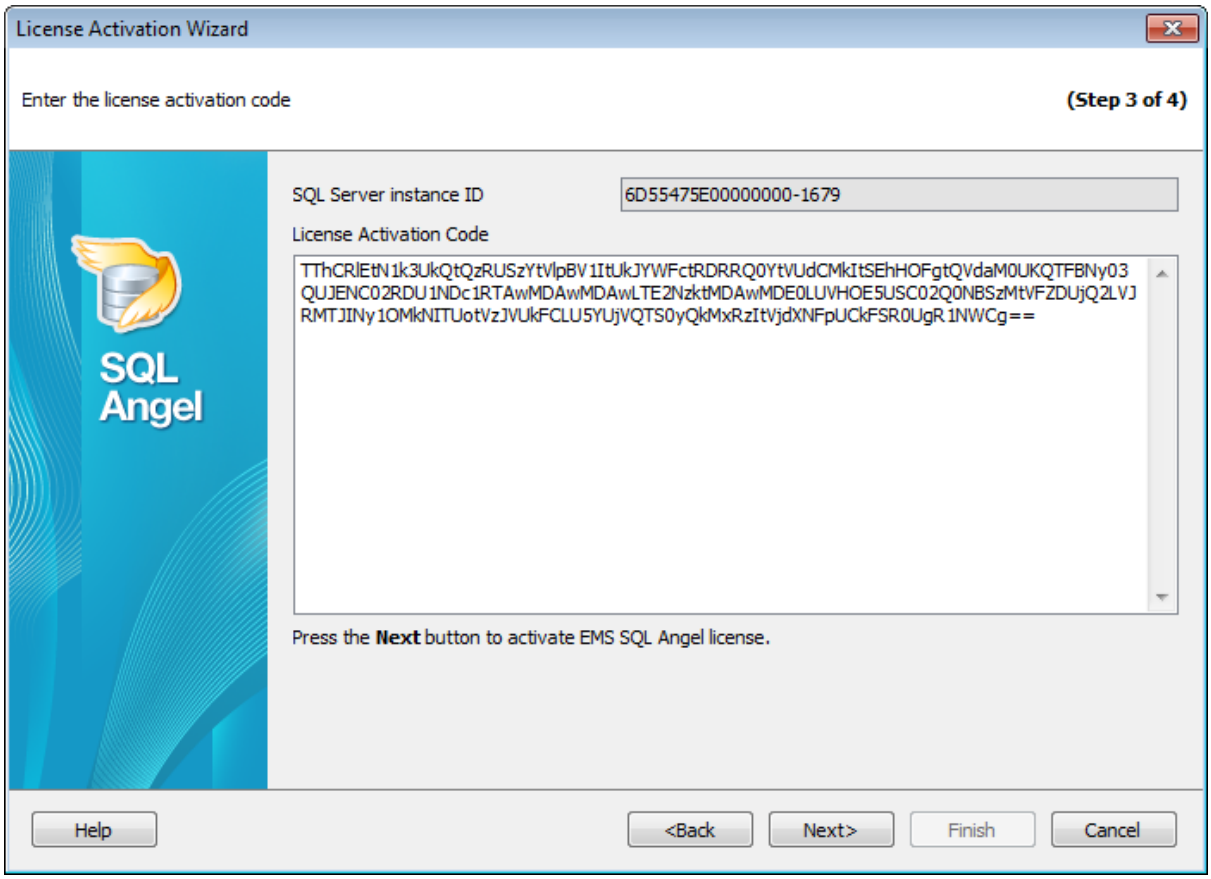
1.6.1.5 Entering license activation code

Here you are to enter the license activation code that you have or that you got via email or website.



Next step

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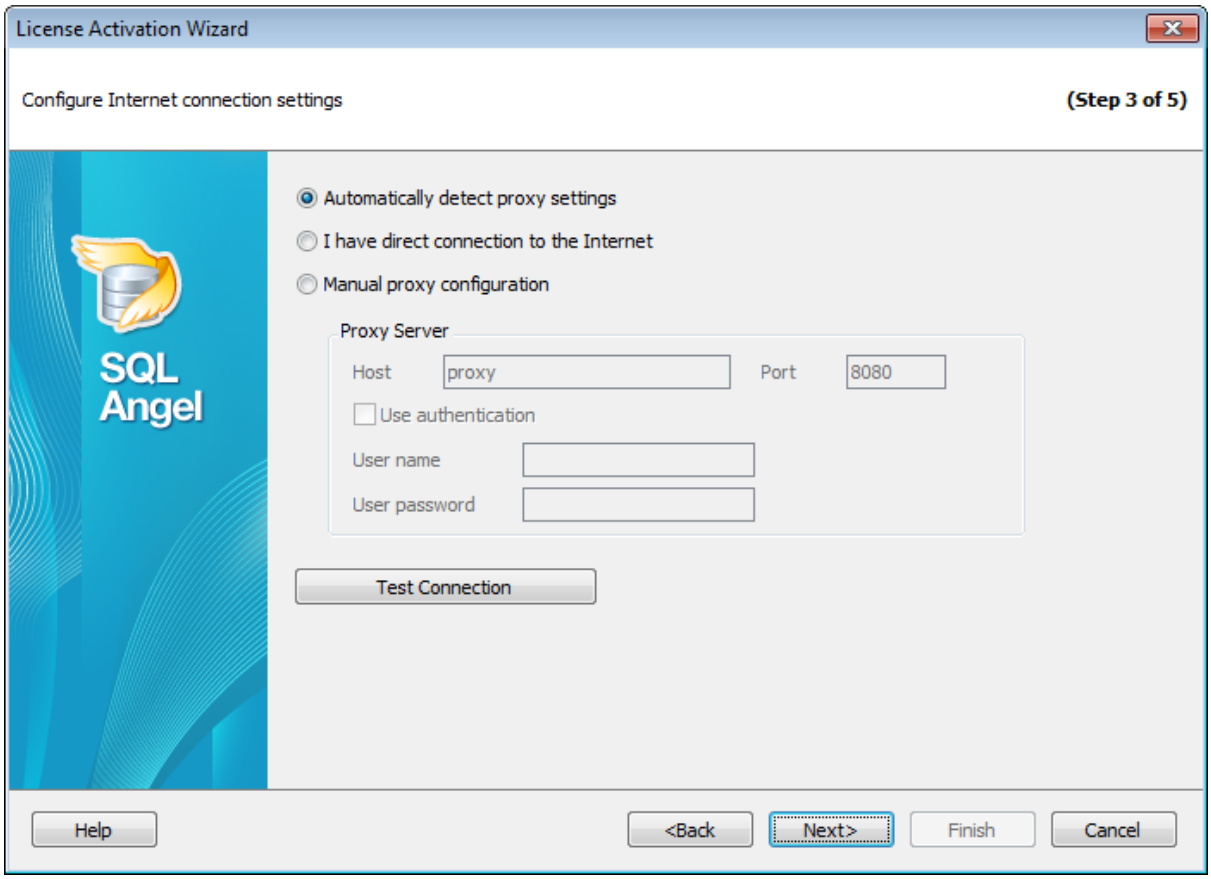
1.6.1.6 Configuring connection settings

Use this step of the wizard to provide connection settings. This step appears only in case the **Activate EMS SQL Angel License online** option was selected on the first step.



Choose one of three options:
- *Automatically detect proxy settings*
- *I have direct connection to the Internet*
- *Manual proxy configuration*

Proxy Server

If you have chosen to configure proxy manually then use this group of options to set the following proxy server parameters: host, port, user name and user password (if the **Use authentication** option is checked).

Click the **Test connection** button to check connection to the proxy server with the settings defined above.

Next step

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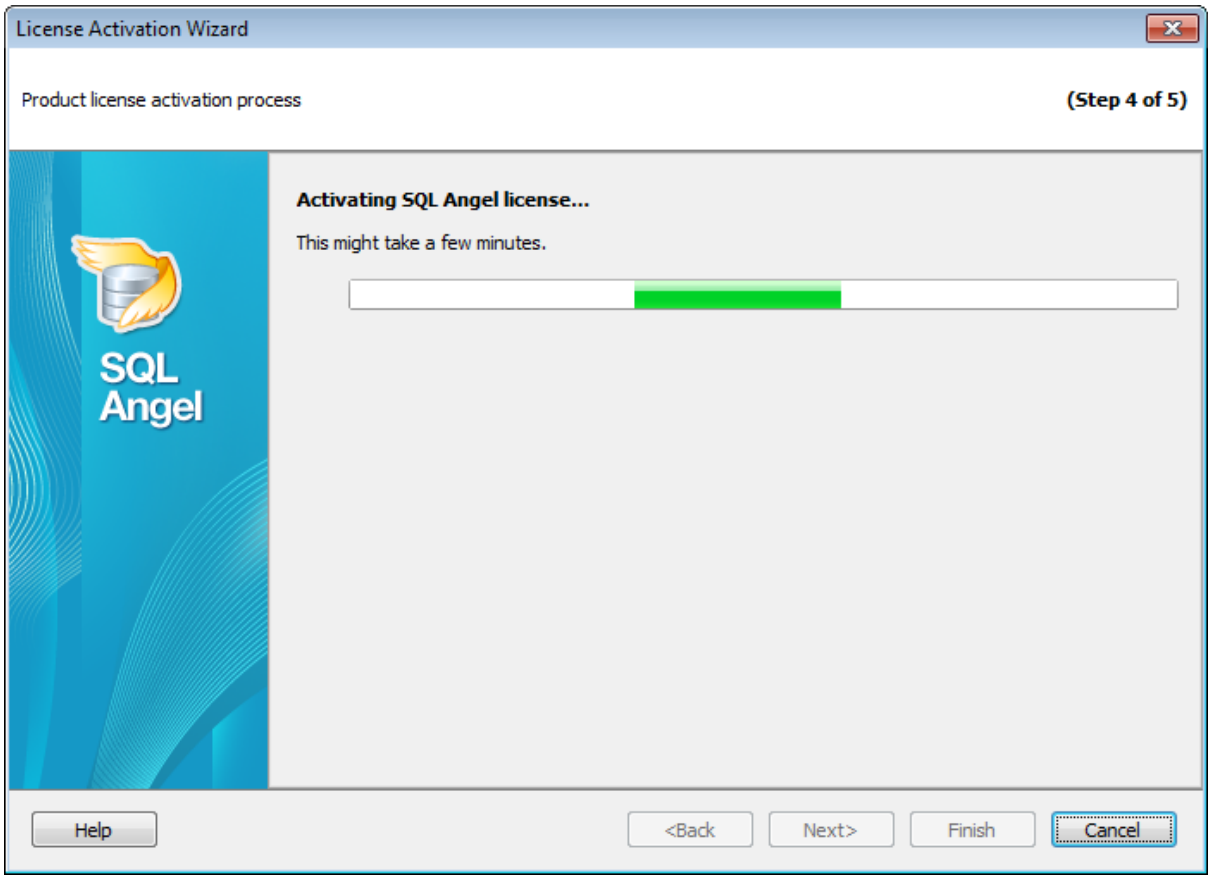
1.6.1.7 Performing online activation

This step appears only in case the **Activate EMS SQL Angel License online** option was selected on the first step.



After the operation is complete you will be automatically redirected to the final step.

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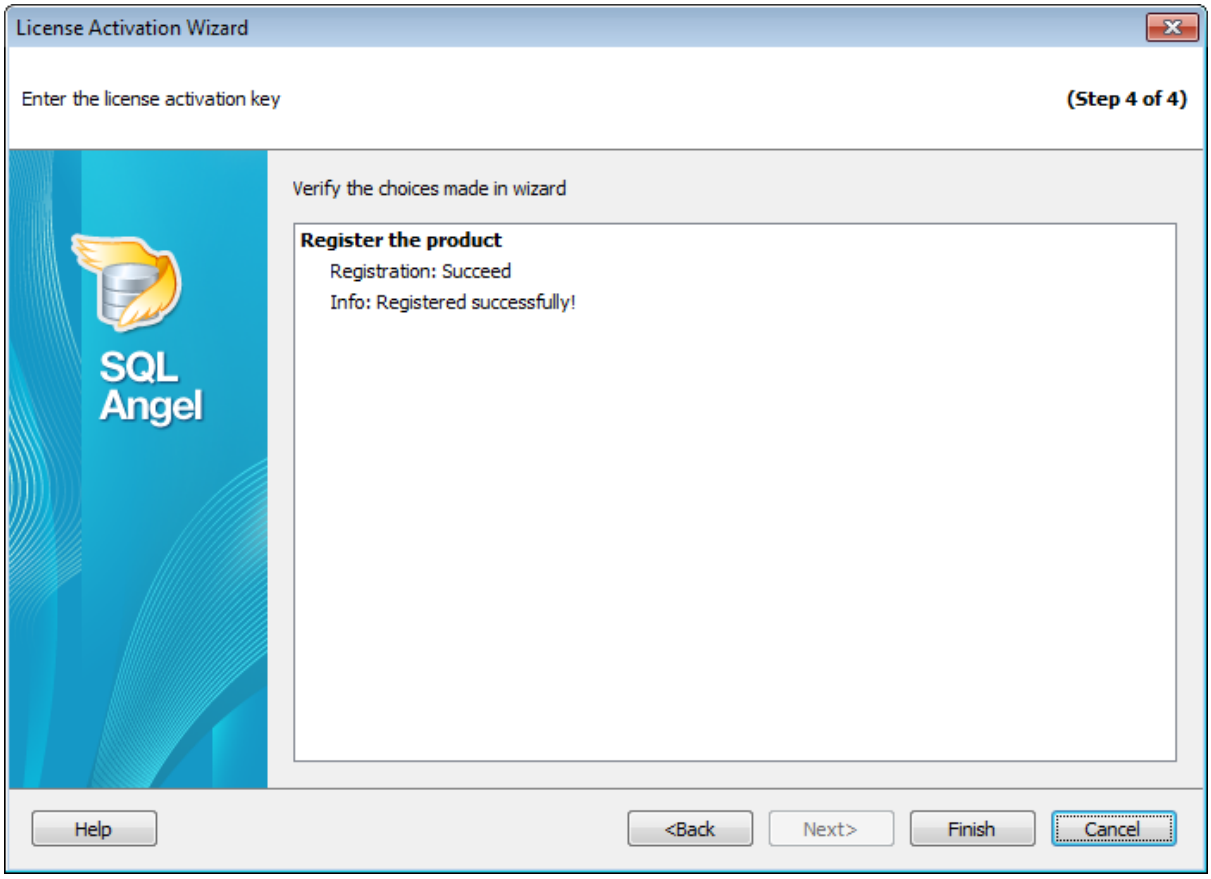
1.6.1.8 Completing operation

This step is intended to inform you about the product activation status.



Click the **Finish** button to complete the operation.

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1.6.2 License deactivation

Suppose, you have decided to move a license from one instance to another. In this case, at first, you need to deactivate this license key and after that activate it on another instance.
The deactivation operation is performed by means of the License Deactivation Wizard.

Your license key will be deactivated and SQL Angel Service will not work with this SQL Server instance. After deactivation this Wizard informs EMS that this license key is deactivated and you will be able to activate it on another SQL Server instance.

To deactivate your license, perform the following steps:
1. select the **Deactivate SQL Angel Service...** item of the server popup menu to run the License Deactivation Wizard;
2. select the preferable license deactivation method and complete the set of wizard steps;
3. make sure that the deactivation process has been completed successfully – the license information in the overall status window must disappear and license must become inactive in the Members Area.

Steps:
Selecting deactivation method
E-mail deactivation
Web-site deactivation
Configuring connection settings
Performing online deactivation
Completing operation

See also:
Purchasing
License activation

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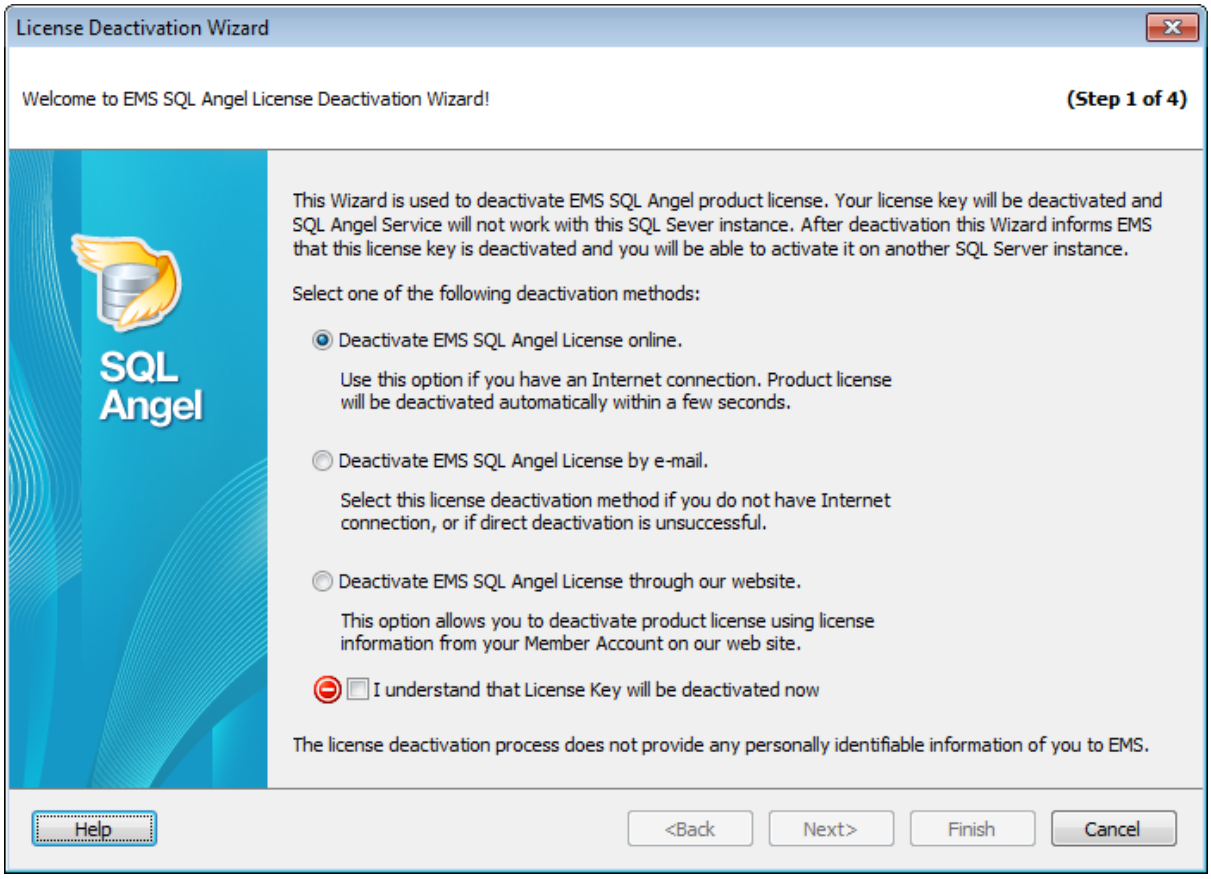
1.6.2.1 Selecting deactivation method

Use this step to set license deactivation method.


License Deactivation Wizard
Welcome to EMS SQL Angel License Deactivation Wizard!
(Step 1 of 4)
SQL Angel
This Wizard is used to deactivate EMS SQL Angel product license. Your license key will be deactivated and SQL Angel Service will not work with this SQL Sever instance. After deactivation this Wizard informs EMS that this license key is deactivated and you will be able to activate it on another SQL Server instance.
Select one of the following deactivation methods:
Deactivate EMS SQL Angel License online.
Use this option if you have an Internet connection. Product license will be deactivated automatically within a few seconds.
Deactivate EMS SQL Angel License by e-mail.
Select this license deactivation method if you do not have Internet connection, or if direct deactivation is unsuccessful.
Deactivate EMS SQL Angel License through our website.
This option allows you to deactivate product license using license information from your Member Account on our web site.
I understand that License Key will be deactivated now
The license deactivation process does not provide any personally identifiable information of you to EMS.
Help
<Back
Next>
Finish
Cancel

Deactivate EMS SQL Angel License online
Use this option if you have Internet connection. Product license will be deactivated automatically within a few seconds.

Deactivate EMS SQL Angel License by e-mail
Select this license deactivation method if you do not have Internet connection, or if direct deactivation is unsuccessful.

Deactivate EMS SQL Angel License through our website
This option allows you to deactivate product license using license information from your Member Account on our web-site.

To proceed to the next step of the Wizard check the ☑ **I understand that License Key will be deactivated now**. On clicking the **Next** button the license will be deactivated locally. This means that the license for an SQL Server instance will be deactivated in the SQL Angel program but you won't be able to activate this license key on another instance.
Note: To complete the deactivation process you need to finish this Wizard.

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Next step in case of **online deactivation**.
Next step in case of **e-mail deactivation**.
Next step in case of **website deactivation**.

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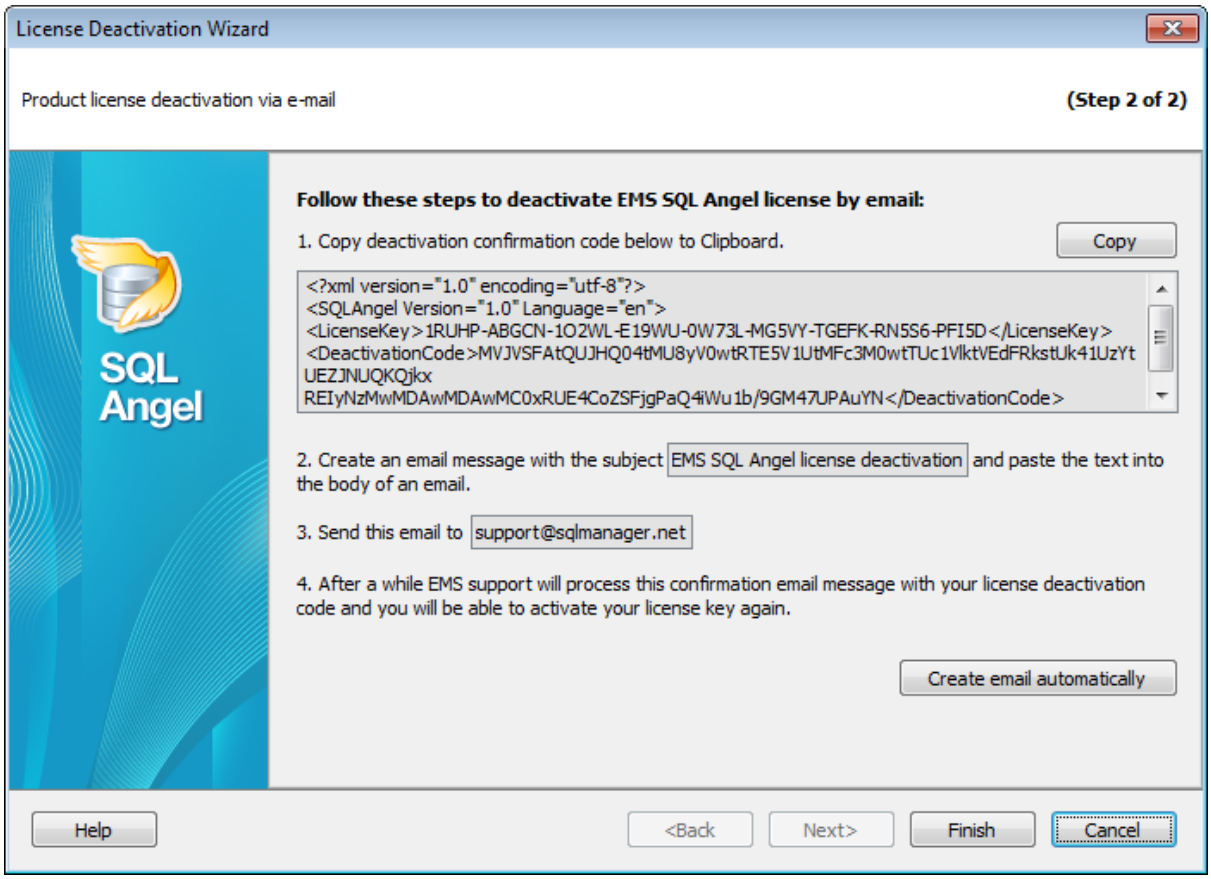
1.6.2.2 E-mail deactivation

This step appears only in case the **Dectivate EMS SQL Angel License by e-mail** option was selected on the first step.



To perform license deactivation via e-mail follow these steps:
1. Copy deactivation confirmation code below to Clipboard.
2. Create an email message with the subject "EMS SQL Angel license deactivation" and paste the text into the body of an email. Send this email to support@sqlmanager.net.
3. After a while EMS support will process this confirmation email message with your license deactivation code.
4. Make sure that the license status in the Members Area has switched to *Inactive*.

If you press the **Create email automatically** button the required message will be generated automatically in the default email client.

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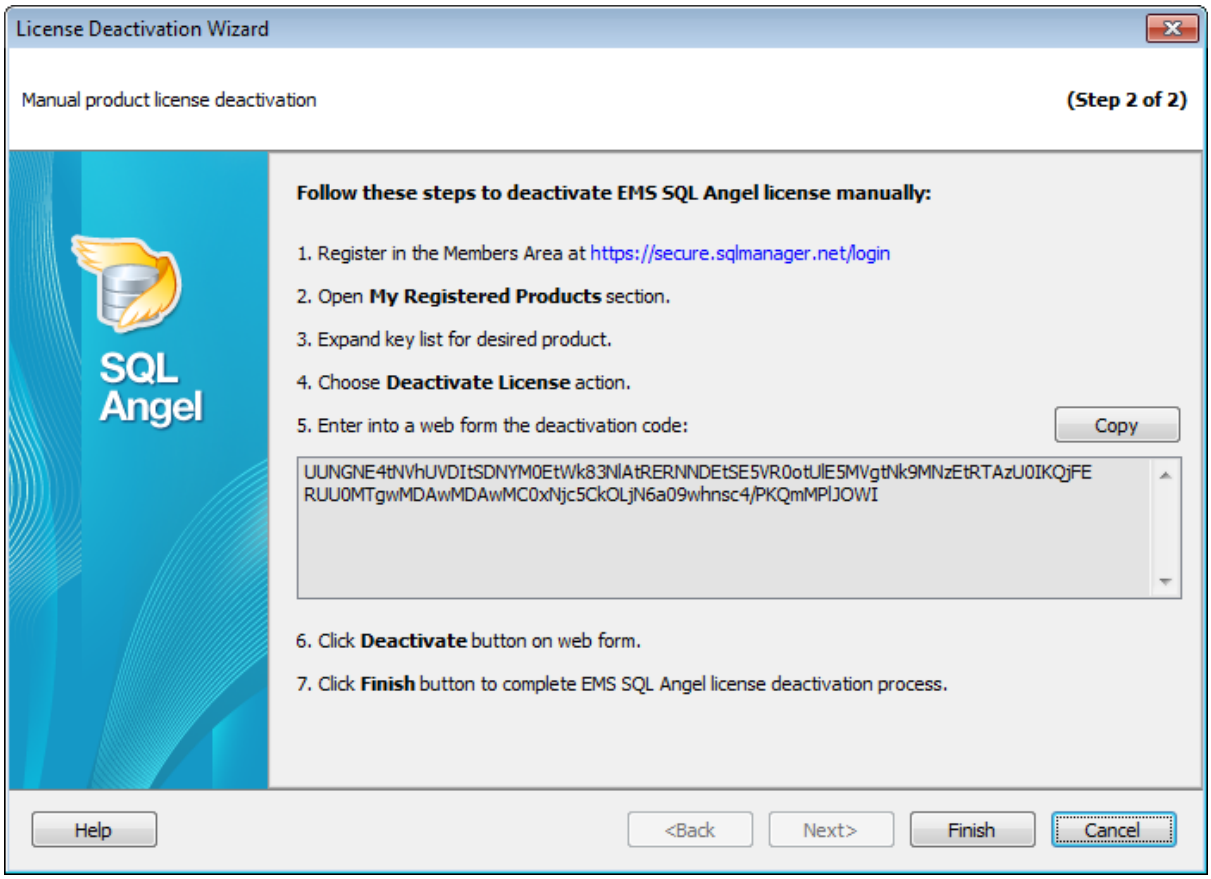
1.6.2.3 Web-site deactivation

This step appears only in case the **Deactivate EMS SQL Angel License through our website** option was selected on the first step.


License Deactivation Wizard
Manual product license deactivation
(Step 2 of 2)
SQL Angel
Follow these steps to deactivate EMS SQL Angel license manually:
1. Register in the Members Area at https://secure.sqlmanager.net/login
2. Open My Registered Products section.
3. Expand key list for desired product.
4. Choose Deactivate License action.
5. Enter into a web form the deactivation code:
Copy
UUNGNE4tNVhUVDItSDNYM0EtWk83NlAtRERNNDEtSE5VR0otUlE5MVgtNk9MNzEtRTAzU0IKQjFE
RUU0MTgwMDAwMDAwMC0xNjc5CkOLjN6a09whnsc4/PKQmMPlJOWI
6. Click Deactivate button on web form.
7. Click Finish button to complete EMS SQL Angel license deactivation process.
Help
<Back
Next>
Finish
Cancel

To perform license deactivation via web-site follow these steps:

1. Register in the Members Area at https://secure.sqlmanager.net/login.
2. Open **My Registered Products** section.
3. Expand key list for desired product.
4. Choose **Deactivate License** action.
5. Enter into a web form the deactivation code from the box below. To copy this code to Clipboard click the **Copy** button.
6. Click **Deactivate** button on web form.
7. Click **Finish** button on the final step of the Wizard to complete EMS SQL Angel license deactivation process.

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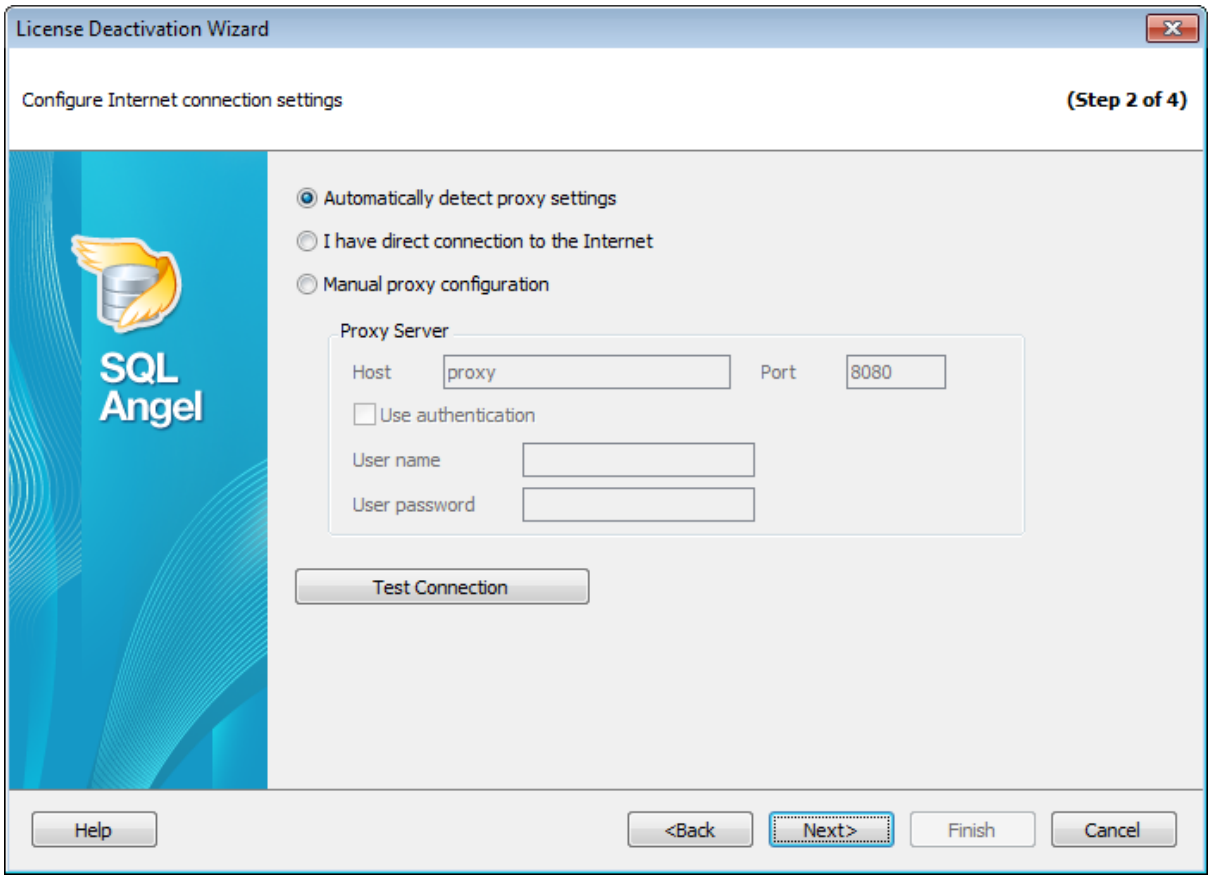
1.6.2.4 Configuring connection settings

Use this step of the wizard to provide connection settings. This step appears only in case the **Deactivate EMS SQL Angel License online** option was selected on the first step.



Choose one of three options:
- *Automatically detect proxy settings*
- *I have direct connection to the Internet*
- *Manual proxy configuration*

Proxy Server

If you have chosen to configure proxy manually then use this group of options to set the following proxy server parameters: host, port, user name and user password (if the **Use authentication** option is checked).

Click the **Test connection** button to check connection to the proxy server with the settings defined above.

Next step

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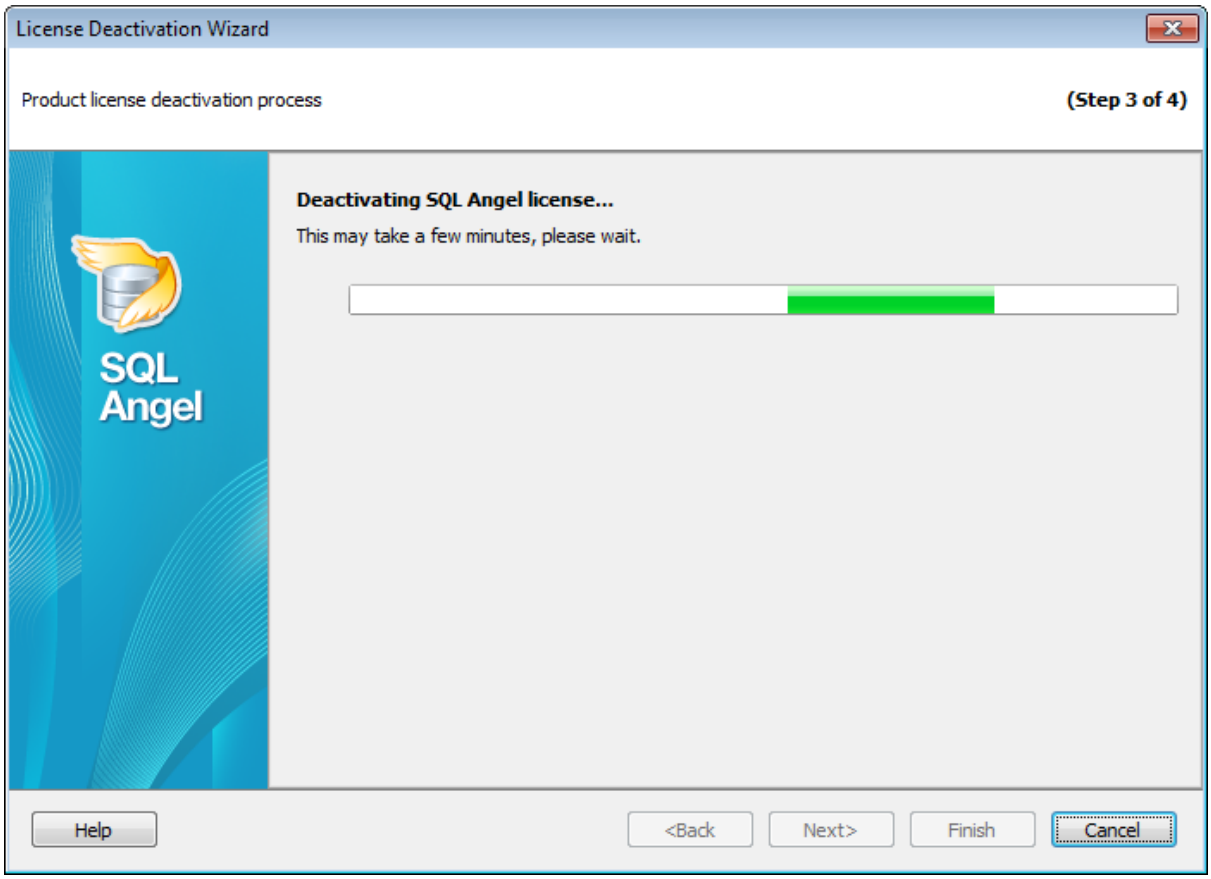
1.6.2.5 Performing online deactivation

This step appears only in case the **Deactivate EMS SQL Angel License online** option was selected on the first step.



After the process of online deactivation you will automatically proceed to the next step of the wizard.

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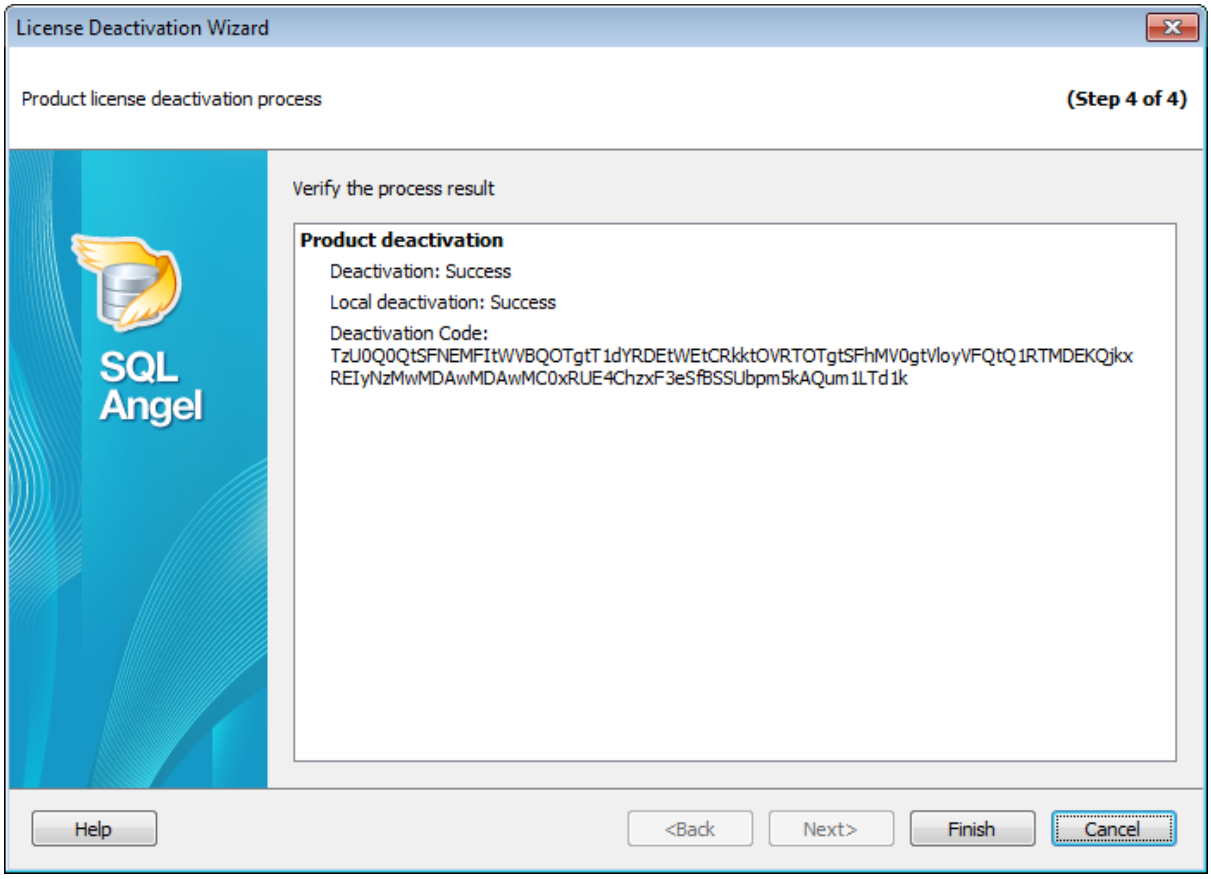
1.6.2.6 Completing operation

This step is intended to inform you about the product deactivation status.



Click the **Finish** button to complete the operation.

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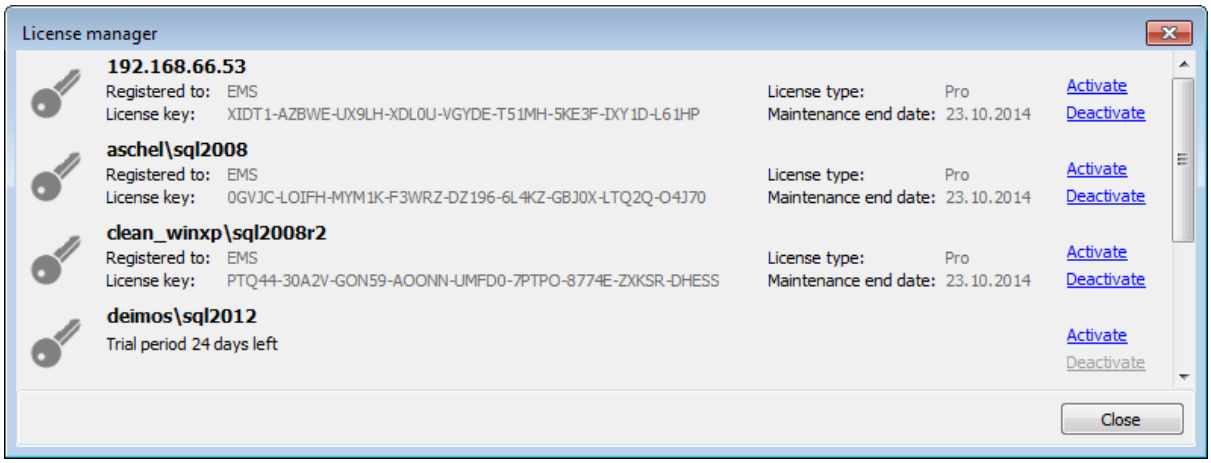
1.6.3 License Manager

License Manager allows you to view license information of all servers in SQL Angel which have SQL Angel server components installed.

To launch License Manager select the **License Manager** item of the Gears menu.



License Manager includes the following registration information for every server:

- *Server name*
- *Customer name*
- *License key*
- *License type*
- *Maintenance end date*

You can launch License activation wizard or License deactivation wizard for the particular server directly from the License Manager dialog by clicking the **Activate/Deactivate** button correspondingly.

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1.7 Version history

Product name	Version	Release date
SQL Angel 1.2	**Version 1.2**	June 10 , 2013
SQL Angel 1.1	**Version 1.1**	April 1, 2013
SQL Angel 1.0	**Version 1.0**	December 12, 2012

Version 1.2

- Added the possibility to verify the integrity of the resulted files after the backup process (RESTORE VERIFYONLY & CHECKSUM).
- Displaying progress for long-running processes.
- Monitoring the log size increase (log size limit by date and size).
- Displaying the database size.
- Improved the main form design.
- Other improvements and bugfixes.

Version 1.1

- Added support of simultaneous backups on the same server.
- Added support of copy-only backups which do not affect the normal sequence of backups.
- Software update notifications.
- Improved the process of converting a policy to a template.
- Added new features for managing templates.
- Many interface improvements.
- Now server-side components have no memory leaks.
- More stable connections to the server-side and Console.
- The log management in the server side is improved.
- The server connection failure caused a configuration record error. Fixed now.
- Other improvements and bugfixes.

Version 1.0 (First public release)

Basic features:

- Compressing backup files up to 5 times (on any server version).
- Reducing backup time up to 4 times (on any server version).
- Backup encryption (on any server version).
- Easy-to use wizard organizing the log shipping process.
- Ability to perform 8 types of service tasks including backup, log shipping, re-indexing, update statistics, etc.
- Policy engine to quickly deploy maintenance tasks to multiple servers and to monitor their execution results.
- Centralized monitoring of policies on multiple servers using the user-friendly GUI console.
- A high-performance multi-threaded backup.
- Working with Enterprise and BI versions of SQL Server.

and more...

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See also:

What's new

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1.8 EMS SQL Angel FAQ

Please read this page attentively if you have questions about **EMS SQL Angel**.

Table of contents

- What versions of SQL Server does SQL Angel support?
- Must SQL Angel be installed on each server which I want to work with?
- I have 5 SQL Servers, 2 of which have two SQL Server instances running, how many licenses for SQL Angel do I need to purchase?
- How does SQL Angel reduce backup size?
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- How much is a backup file size reduced and what does it depend on?
- Can I restore a backup file of SQL Angel on SQL Server with no SQL Angel components installed?
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- Does SQL Angel support log shipping?
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- Can different types of maintenance tasks go in the same policy?
- Can policy tasks have their own execution schedules?
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- Can I execute multiple policies simultaneously on one server?
- I have setup SQL Server maintenance plans. Can I use them in SQL Angel?
- How does SQL Angel notify about a policy execution failure?
- Can I monitor/manage my set of servers using two (three) different (installed on different computers) consoles?
- Whether the servers, SQL Angel works with, must be located within one local network?
- Do I need to open any additional ports or to enable protocols for working with SQL Angel?
- Can I install SQL Angel server components remotely?
- I failed to install server components remotely from SQL Angel Console due to insufficient privileges or errors on installation. Can I run the installation wizard on the server machine to install server components?
- What kind of account should be used for running SQL Angel service?
- Policy execution failed with the error: "The task cannot be completed. The owner (NT AUTHORITY\SYSTEM) of SqlAngel_XXXXXXXX_Task does not have access to server". Why does it happen?
- What are the differences between two versions of SQL Angel?
- May I purchase a license for SQL Angel and later upgrade it to SQL Angel Pro? How much will it cost?
- May I not pay the program maintenance?
- My trial period has expired, but I have not made a purchase decision yet. Can my trial period be extended?

Question/answer list

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Q: *What versions of SQL Server does SQL Angel support?*
A: SQL Angel works with all SQL Server versions (except Compact Edition) from SQL Server 2000 up to SQL Server 2012. However, as SQL Server Express edition does not include SQL Server Agent service, SQL Angel policies cannot be deployed to these editions of SQL Server.

Q: *Must SQL Angel be installed on each server which I want to work with?*
A: Yes, SQL Angel server components must be installed on each instance of SQL Server.

Q: *I have 5 SQL Servers, 2 of which have two SQL Server instances running, how many licenses for SQL Angel do I need to purchase?*
A: Totally you have 7 instances of SQL Server, it means that you need to purchase 7 licenses for SQL Angel.

Q: *How does SQL Angel reduce backup size?*
A: This is achieved by compressing data received from the server during the backup process.

Q: *Does the backup compression depend on SQL Server version or edition?*
A: SQL Angel uses its own data compression function, which does not depend on a version and edition of SQL Server.

Q: *How much is a backup file size reduced and what does it depend on?*
A: It depends on data stored in the database and on a selected in SQL Angel compression level. In case of text\numeric data when using compression a backup file size can be up to 80% less in comparison when compression is disabled. If a database mostly stores difficult to compress binary data, such as raster images in JPEG, the compression function cannot significantly reduce the backup file size.

Q: *Can I restore a backup file of SQL Angel on SQL Server with no SQL Angel components installed?*
A: No, you cannot. However, you can use the ConvertUtil.exe command line utility, which does not need to be installed and registered to convert backup files of SQL Angel format to a standard SQL Server format. After being converted backup can be restored using standard SQL Server tools.

Q: *What are the reasons for reduction of time required for backup and recovery?*
A: The compression level selection allows you to find a compromise between the backup speed and file size. At the same time the backup time execution can be reduced up to 80% compared with a native tool due to a lower load on the disk subsystem.

Q: *Does SQL Angel use undocumented features of SQL Server?*
A: SQL Angel uses only documented features of SQL Server, which guarantee its correct working on all available versions of SQL Server, as well as on future version releases.

Q: *Can SQL Angel perform a standard backup, suitable for recovery on SQL Server, without using SQL Angel?*
A: Yes, SQL Angel can do it. To do this you need to select SQL Server as a backup type in the Backup Wizard.

Q: *Does SQL Angel support log shipping?*
A: SQL Angel performs log shipping using its compression and encryption features, which

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make this process faster and more secure.

Q: *I have servers in different time-zones. At what time-zone will tasks be launched?*
A: When creating a policy, you can select whether a task on servers in different time-zones is launched at servers standard time or simultaneously against the console time. This option is called "Task Scheduling in different time zones" at Step 1 of the Policy Wizard.

Q: *What is the advantage of using the Policy Engine of SQL Angel compared to standard maintenance plans of SQL Server?*
A: SQL Angel Policy Engine provides the following features:
- ✓ Using SQL Angel backup functionality
- ✓ Ability to deploy and monitor policies on multiple servers of different versions simultaneously
- ✓ Easy-to-use policy monitoring mechanism
- ✓ Ability to use templates

Q: *Can different types of maintenance tasks go in the same policy?*
A: A policy can contain both multiple tasks of different types and multiple tasks of the same type.

Q: *Can policy tasks have their own execution schedules?*
A: Yes, each task can have one or more schedules.

Q: *Can SQL Angel perform a single maintenance task without creating policies?*
A: Yes, you can perform a maintenance task using the "Quick Maintenance Actions" context menu item of the Server tree.

Q: *Can I execute multiple policies simultaneously on one server?*
A: Several policies can be deployed to a single server, their runtime can be the same and the execution time can intersect. However, 2 tasks of backup/recovery/log shipping can not be executed simultaneously on a single SQL Server instance.

Q: *I have setup SQL Server maintenance plans. Can I use them in SQL Angel?*
A: You can convert SQL Server maintenance plans into SQL Angel policies using the Maintenance Plan Conversion Wizard ("Maintenance Policies | Convert from Maintenance Plan" context menu of the Server tree).

Q: *How does SQL Angel notify about a policy execution failure?*
A: SQL Angel has the e-mail notification mechanism informing of the policy execution results. Also SQL Angel Console displays statuses and results of policies while connecting to a server.

Q: *Can I monitor/manage my set of servers using two (three) different (installed on different computers) consoles?*
A: Yes, you can. However, your SQL Angel Console configuration must be accessible to all your computers. The configuration can be stored both in a file and in a database on any SQL Server. In this case it is recommended to store the configuration on SQL Server. To change the configuration storage location, call "Options | Save Configuration", specify a new location and enable the "Switch to saved configuration" option to use a new location. In SQL Angel Console, installed on other computers, you should switch to the new location using the "Options | Switch Configuration" dialogue.

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Q: *Whether the servers, SQL Angel works with, must be located within one local network?*
A: Servers can be located anywhere. If you are able to connect to your servers using SQL Server Management Studio, SQL Angel is able to work with them too.

Q: *Do I need to open any additional ports or to enable protocols for working with SQL Angel?*
A: It is neither necessary to open additional ports nor enable protocols beyond those already used by your SQL Server Management Studio.

Q: *Can I install SQL Angel server components remotely?*
A: Yes, you can install SQL Angel server components remotely from SQL Angel Console. In the Server tree, select SQL Server, on which you want to install the components, and click "Install Server-Side SQL Angel Components" in the context menu. Then follow the instructions of the wizard.
The following conditions must be met for remote installation:
- ✓ Installing via SQL Server:
  - You must have an account with SQL Server System Administrator Privileges, such as sa.
  - SQL Server service must be run under an account with Windows Local Administrator Privileges, such as LocalSystem.
- ✓ Installing via NETBIOS:
  - You must have Windows System Administrator Privileges on remote computer.
  - You must have an account with SQL Server System Administrator Privileges, such as sa.

Q: I failed to install server components remotely from SQL Angel Console due to insufficient privileges or errors on installation. Can I run the installation wizard on the server machine to install server components?
A: Yes, you can use the special mode for SQL Angel installation program:
1. Copy the installation package (SQLAngelSetup.exe) to the server machine.
2. Run the following command as Administrator: SQLAngelSetup.exe -var:"ServerInstall=1"
3. Follow the steps of the installation wizard. It will automatically find all local server instances for installing server components.

Q: *What kind of account should be used for running SQL Angel service?*
A: To run SQL Angel you can use any account with the following privileges:
- ✓ Access to SQL Server with Server Administrator Privileges.
- ✓ Write access to a directory which is used for creating backups.
- ✓ Ability of authorization on another computer on a network for read/record access to a general directory while log shipping process.

For example, a system domain user with all the mentioned above privileges can be used. If log shipping process is not planned, Local System embedded account can be used as a system user account.

Q: *Policy execution failed with the error: "The task cannot be completed. The owner (NT AUTHORITY\SYSTEM) of SqlAngel_XXXXXXXX_Task does not have access to server". Why does it happen?*
A: This error occurs when SQL Server Agent receives wrong information about the user privileges set of NT AUTHORITY\SYSTEM that is the owner of the executing task. The problem can be solved in one of the following ways:
- ✓ Change SQL Angel service account to any other one that has all the task run privileges on the server. Recreate a policy.

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- ✓ Change the owner of SqlAngel_XXXXXXXX_Task to another user having the permissions to run tasks.
- ✓ If BUILTIN\Administrators account was removed from the server, restore it using the administrator privileges.

Q: *What are the differences between two versions of SQL Angel?*
A: You can view the list of all functional differences between SQL Angel and SQL Angel Pro in the Feature Matrix.

Q: *May I purchase a license for SQL Angel and later upgrade it to SQL Angel Pro? How much will it cost?*
A: Yes, you can upgrade SQL Angel to SQL Angel Pro at any time by paying the difference in cost between SQL Angel and SQL Angel Pro, that is 325.00 USD.

Q: *May I not pay the program maintenance?*
A: The basic price of SQL Angel includes 1 Year Maintenance. Once the Maintenance term expires, you will be able to continue using the software without any limitations; however, you won't have access to any product updates released after your maintenance expiration date.

Q: *My trial period has expired, but I have not made a purchase decision yet. Can my trial period be extended?*
A: Yes, we can extend the trial period for you for 14 days. Please contact our Support Team at Support Ticket System or Live Chat service.

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If you still have any questions, contact us at our Support Center.

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1.9 Other EMS Products

Quick navigation

MySQL

Microsoft SQL

PostgreSQL

InterBase / FireBird

Oracle

IBM DB2

Tools & components

MySQL

SQL Management Studio for MySQL
EMS SQL Management Studio for MySQL is a complete solution for database administration and development. SQL Studio unites the must-have tools in one powerful and easy-to-use environment that will make you more productive than ever before!

SQL Manager for MySQL
Simplify and automate your database development process, design, explore and maintain existing databases, build compound SQL query statements, manage database user rights and manipulate data in different ways.

Data Export for MySQL
Export your data to any of 20 most popular data formats, including MS Access, MS Excel, MS Word, PDF, HTML and more.

Data Import for MySQL
Import your data from MS Access, MS Excel and other popular formats to database tables via user-friendly wizard interface.

Data Pump for MySQL
Migrate from most popular databases (MySQL, PostgreSQL, Oracle, DB2, InterBase/Firebird, etc.) to MySQL.

Data Generator for MySQL
Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.

DB Comparer for MySQL
Compare and synchronize the structure of your databases. Move changes on your development database to production with ease.

DB Extract for MySQL
Create database backups in the form of SQL scripts, save your database structure and table data as a whole or partially.

SQL Query for MySQL
Analyze and retrieve your data, build your queries visually, work with query plans, build charts based on retrieved data quickly and more.

Data Comparer for MySQL
Compare and synchronize the contents of your databases. Automate your data migrations from development to production database.

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Microsoft SQL

SQL Management Studio for SQL Server
EMS SQL Management Studio for SQL Server is a complete solution for database administration and development. SQL Studio unites the must-have tools in one powerful and easy-to-use environment that will make you more productive than ever before!

SQL Angel for SQL Server
Perform backup and restore, log shipping and many other regular maintenance tasks on the whole set of SQL Servers in your company.

SQL Administrator for SQL Server
Perform administrative tasks in the fastest, easiest and most efficient way. Manage maintenance tasks, monitor their performance schedule, frequency and the last execution result.

SQL Manager for SQL Server
Simplify and automate your database development process, design, explore and maintain existing databases, build compound SQL query statements, manage database user rights and manipulate data in different ways.

Data Export for SQL Server
Export your data to any of 20 most popular data formats, including MS Access, MS Excel, MS Word, PDF, HTML and more

Data Import for SQL Server
Import your data from MS Access, MS Excel and other popular formats to database tables via user-friendly wizard interface.

Data Pump for SQL Server
Migrate from most popular databases (MySQL, PostgreSQL, Oracle, DB2, InterBase/Firebird, etc.) to Microsoft® SQL Server™.

Data Generator for SQL Server
Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.

DB Comparer for SQL Server
Compare and synchronize the structure of your databases. Move changes on your development database to production with ease.

DB Extract for SQL Server
Create database backups in the form of SQL scripts, save your database structure and table data as a whole or partially.

SQL Query for SQL Server
Analyze and retrieve your data, build your queries visually, work with query plans, build charts based on retrieved data quickly and more.

Data Comparer for SQL Server
Compare and synchronize the contents of your databases. Automate your data migrations from development to production database.

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PostgreSQL

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SQL Management Studio for PostgreSQL
EMS SQL Management Studio for PostgreSQL is a complete solution for database administration and development. SQL Studio unites the must-have tools in one powerful and easy-to-use environment that will make you more productive than ever before!

SQL Manager for PostgreSQL
Simplify and automate your database development process, design, explore and maintain existing databases, build compound SQL query statements, manage database user rights and manipulate data in different ways.

Data Export for PostgreSQL
Export your data to any of 20 most popular data formats, including MS Access, MS Excel, MS Word, PDF, HTML and more

Data Import for PostgreSQL
Import your data from MS Access, MS Excel and other popular formats to database tables via user-friendly wizard interface.

Data Pump for PostgreSQL
Migrate from most popular databases (MySQL, SQL Server, Oracle, DB2, InterBase/Firebird, etc.) to PostgreSQL.

Data Generator for PostgreSQL
Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.

DB Comparer for PostgreSQL
Compare and synchronize the structure of your databases. Move changes on your development database to production with ease.

DB Extract for PostgreSQL
Create database backups in the form of SQL scripts, save your database structure and table data as a whole or partially.

SQL Query for PostgreSQL
Analyze and retrieve your data, build your queries visually, work with query plans, build charts based on retrieved data quickly and more.

Data Comparer for PostgreSQL
Compare and synchronize the contents of your databases. Automate your data migrations from development to production database.

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InterBase / Firebird

SQL Management Studio for InterBase/Firebird
EMS SQL Management Studio for InterBase and Firebird is a complete solution for database administration and development. SQL Studio unites the must-have tools in one powerful and easy-to-use environment that will make you more productive than ever before!

SQL Manager for InterBase/Firebird
Simplify and automate your database development process, design, explore and maintain existing databases, build compound SQL query statements, manage database user rights and manipulate data in different ways.

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Data Export for InterBase/Firebird
Export your data to any of 20 most popular data formats, including MS Access, MS Excel, MS Word, PDF, HTML and more

Data Import for InterBase/Firebird
Import your data from MS Access, MS Excel and other popular formats to database tables via user-friendly wizard interface.

Data Pump for InterBase/Firebird
Migrate from most popular databases (MySQL, SQL Server, Oracle, DB2, PostgreSQL, etc.) to InterBase/Firebird.

Data Generator for InterBase/Firebird
Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.

DB Comparer for InterBase/Firebird
Compare and synchronize the structure of your databases. Move changes on your development database to production with ease.

DB Extract for InterBase/Firebird
Create database backups in the form of SQL scripts, save your database structure and table data as a whole or partially.

SQL Query for InterBase/Firebird
Analyze and retrieve your data, build your queries visually, work with query plans, build charts based on retrieved data quickly and more.

Data Comparer for InterBase/Firebird
Compare and synchronize the contents of your databases. Automate your data migrations from development to production database.

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Oracle

SQL Management Studio for Oracle
EMS SQL Management Studio for Oracle is a complete solution for database administration and development. SQL Studio unites the must-have tools in one powerful and easy-to-use environment that will make you more productive than ever before!

SQL Manager for Oracle
Simplify and automate your database development process, design, explore and maintain existing databases, build compound SQL query statements, manage database user rights and manipulate data in different ways.

Data Export for Oracle
Export your data to any of 20 most popular data formats, including MS Access, MS Excel, MS Word, PDF, HTML and more.

Data Import for Oracle
Import your data from MS Access, MS Excel and other popular formats to database tables via user-friendly wizard interface.

Data Pump for Oracle
Migrate from most popular databases (MySQL, PostgreSQL, MySQL, DB2, InterBase/Firebird, etc.) to Oracle

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Data Generator for Oracle
Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.

DB Comparer for Oracle
Compare and synchronize the structure of your databases. Move changes on your development database to production with ease.

DB Extract for Oracle
Create database backups in the form of SQL scripts, save your database structure and table data as a whole or partially.

SQL Query for Oracle
Analyze and retrieve your data, build your queries visually, work with query plans, build charts based on retrieved data quickly and more.

Data Comparer for Oracle
Compare and synchronize the contents of your databases. Automate your data migrations from development to production database.

Scroll to top

DB2

SQL Management Studio for DB2
EMS SQL Management Studio for DB2 is a complete solution for database administration and development. SQL Studio unites the must-have tools in one powerful and easy-to-use environment that will make you more productive than ever before!

SQL Manager for DB2
Simplify and automate your database development process, design, explore and maintain existing databases, build compound SQL query statements, manage database user rights and manipulate data in different ways.

Data Export for DB2
Export your data to any of 20 most popular data formats, including MS Access, MS Excel, MS Word, PDF, HTML and more.

Data Import for DB2
Import your data from MS Access, MS Excel and other popular formats to database tables via user-friendly wizard interface.

Data Pump for DB2
Migrate from most popular databases (MySQL, PostgreSQL, Oracle, MySQL, InterBase/Firebird, etc.) to DB2

Data Generator for DB2
Generate test data for database testing purposes in a simple and direct way. Wide range of data generation parameters.

DB Comparer for DB2
Compare and synchronize the structure of your databases. Move changes on your development database to production with ease.

DB Extract for DB2
Create database backups in the form of SQL scripts, save your database structure and table

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data as a whole or partially.

SQL Query for DB2
Analyze and retrieve your data, build your queries visually, work with query plans, build charts based on retrieved data quickly and more.

Data Comparer for DB2
Compare and synchronize the contents of your databases. Automate your data migrations from development to production database.

Scroll to top

Tools & components

Advanced Data Export
Advanced Data Export Component Suite (for Borland Delphi and .NET) will allow you to save your data in the most popular office programs formats.

Advanced Data Export .NET
Advanced Data Export .NET is a component suite for Microsoft Visual Studio .NET 2003, 2005, 2008 and 2010 that will allow you to save your data in the most popular data formats for the future viewing, modification, printing or web publication. You can export data into MS Access, MS Excel, MS Word (RTF), PDF, TXT, DBF, CSV and more! There will be no need to waste your time on tiresome data conversion - Advanced Data Export will do the task quickly and will give the result in the desired format.

Advanced Data Import
Advanced Data Import™ Component Suite for Delphi® and C++ Builder® will allow you to import your data to the database from files in the most popular data formats.

Advanced PDF Generator
Advanced PDF Generator for Delphi gives you an opportunity to create PDF documents with your applications written on Delphi® or C++ Builder®.

Advanced Query Builder
Advanced Query Builder is a powerful component suite for Borland® Delphi® and C++ Builder® intended for visual building SQL statements for the SELECT, INSERT, UPDATE and DELETE clauses.

Advanced Excel Report
Advanced Excel Report for Delphi is a powerful band-oriented generator of template-based reports in MS Excel.

Advanced Localizer
Advanced Localizer™ is an indispensable component suite for Delphi® for adding multilingual support to your applications.

Source Rescuer
EMS Source Rescuer™ is an easy-to-use wizard application for Borland Delphi® and C++Builder® which can help you to restore your lost source code.

Scroll to top

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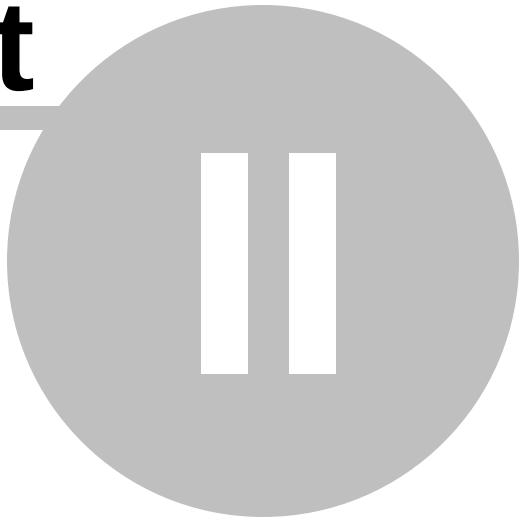
Part



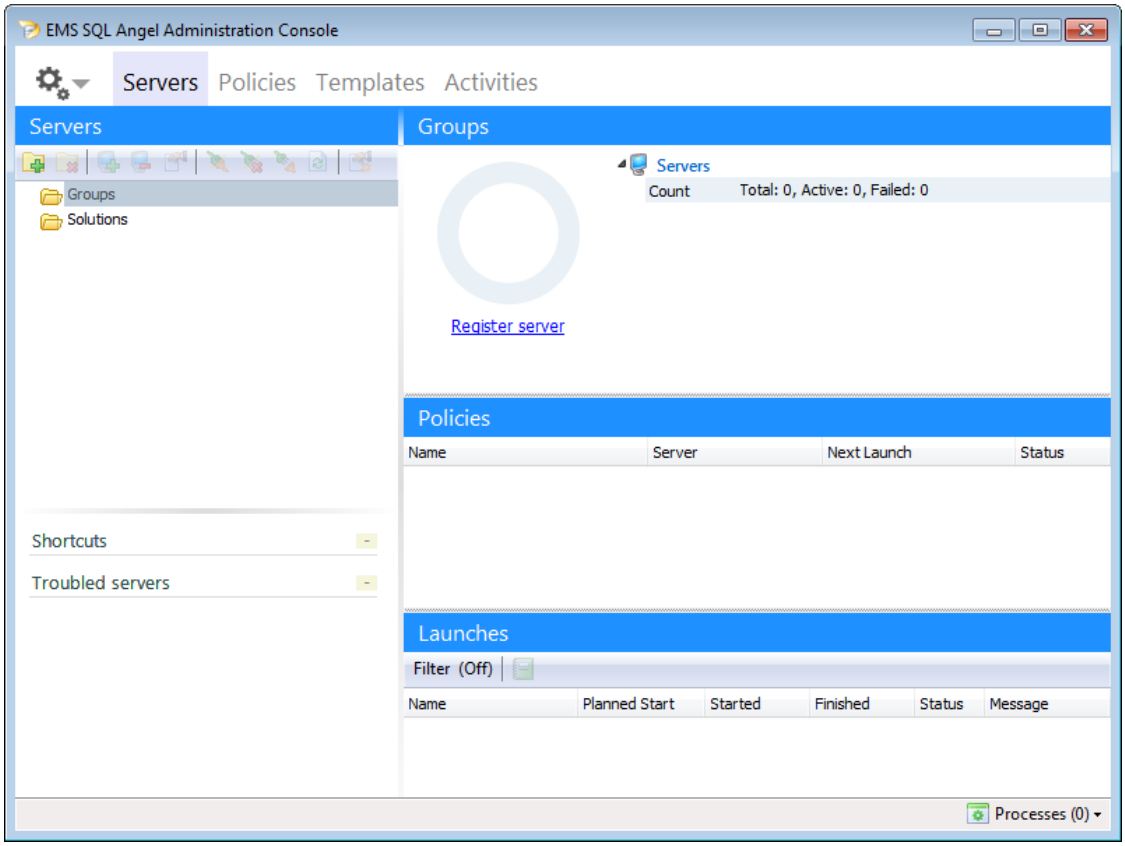
2 Getting Started

SQL Angel provides you with an ability to contribute to efficient SQL Server administration and development using a variety of available tools easily and quickly.

When the program is launched for the first time the Configuration dialog is prompted, where you need to set the destination for storing SQL Angel settings.

To work with the program you need to register the servers first and install server-side components on each of them. Servers can be registered in **Groups** or **Solutions** folders. *Groups* are used to organize servers by some specific criteria (for example, location), whereas *Solutions* unite servers or databases to be included into one Policy.

Enjoy your work with EMS SQL Angel!



See also:
Servers
Policies
Templates
Activities
Maintenance Actions
Options

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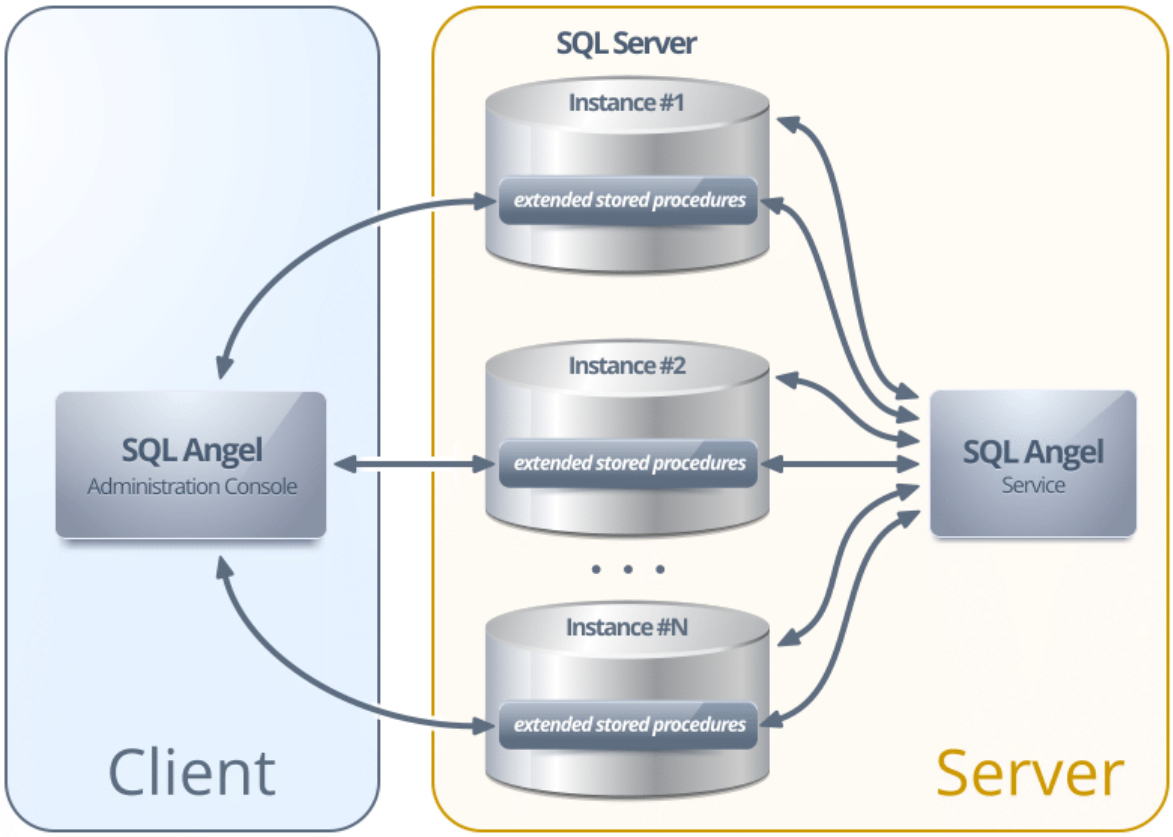
2.1 Angel overview

EMS SQL Angel consists of two core units: SQL Administration Console and Server-side components. SQL Administration Console is launched at the client machine, whereas Server-side components are installed on the server where SQL Server instance is launched (locally or remotely). Server-side components include the service installed on the server machine and extended stored procedures created in 'master' database for each SQL Server instance.



SQL Angel Administration Console is the basic tool for administration of SQL Server instances and maintenance polices, maintaining status of instances and logs reviewing. Task and policy execution process is initiated by the service running on SQL Server. Interaction between SQL Angel Administration Console and service on the server is implemented with extended stored procedures, that manages policy execution without extra connections to the server and opening of additional ports. Policy, which is the main element of SQL Angel, is implemented as jobs in SQL Server and therefore its execution requires consistent work of SQL Agent.

See also:
Policy overview
Navigating

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2.2 Policy overview

Policy in SQL Angel is a set of scheduled tasks to be performed on the server(s) or database(s) each containing a number of steps.

Each Policy execution generates the result status that informs you about successful or failed policy executions. After reviewing the errors you can ignore them or re-execute the task.

For quicker creating of typical maintenance policies you can use Templates.

Policy is implemented as a set of jobs in SQL Server and therefore its execution requires consistent work of SQL Agent.

See also:
Angel overview
Navigating

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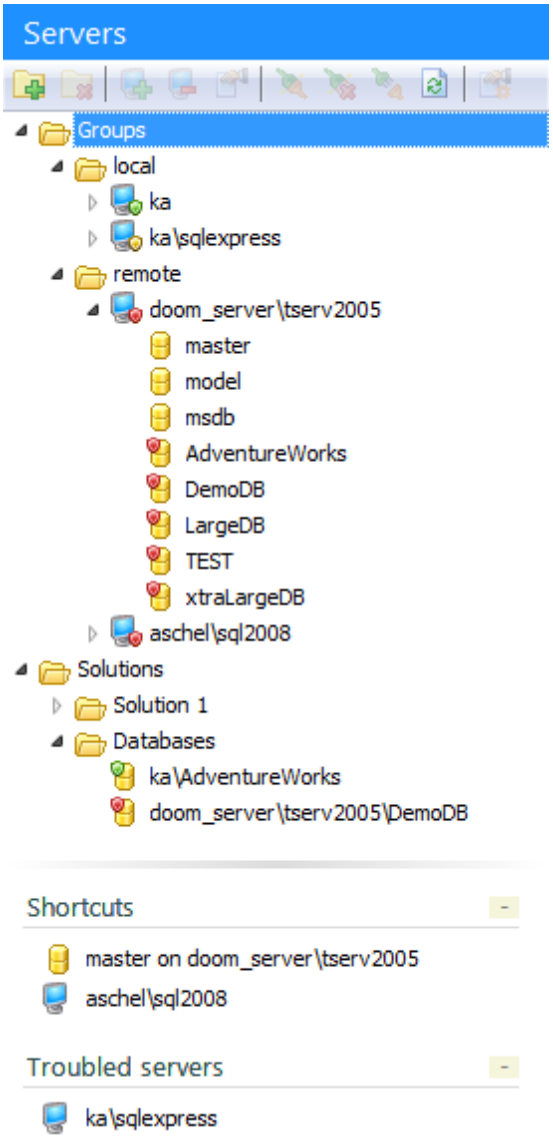
2.3 Navigating

Explorer is the basic navigation window for managing servers and databases. It has a tree-like structure and it allows you to perform operations with any object in the Explorer window. Explorer is only available at the Servers tab of SQL Angel. Also from this tab you can get all information about policy status.



The following tabs are available on the top of the SQL Angel window.

Gears menu - for configuring SQL Angel Console settings;

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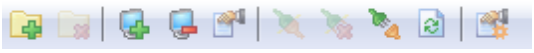
Servers - for managing servers, databases and policies execution;
Policies - for managing policies;
Templates - for managing templates for policies, tasks, steps and schedules;
Activities - for managing current active processes.

Toolbars
A **toolbar** is a horizontal row of selectable image buttons that give the user a constantly visible reminder of and an easy way to select certain application functions.



Toolbars are available on Servers and Policies tabs.

See also:
Angel overview
Policy overview

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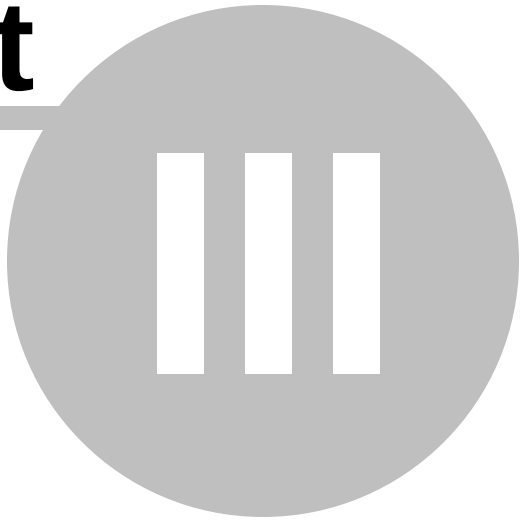
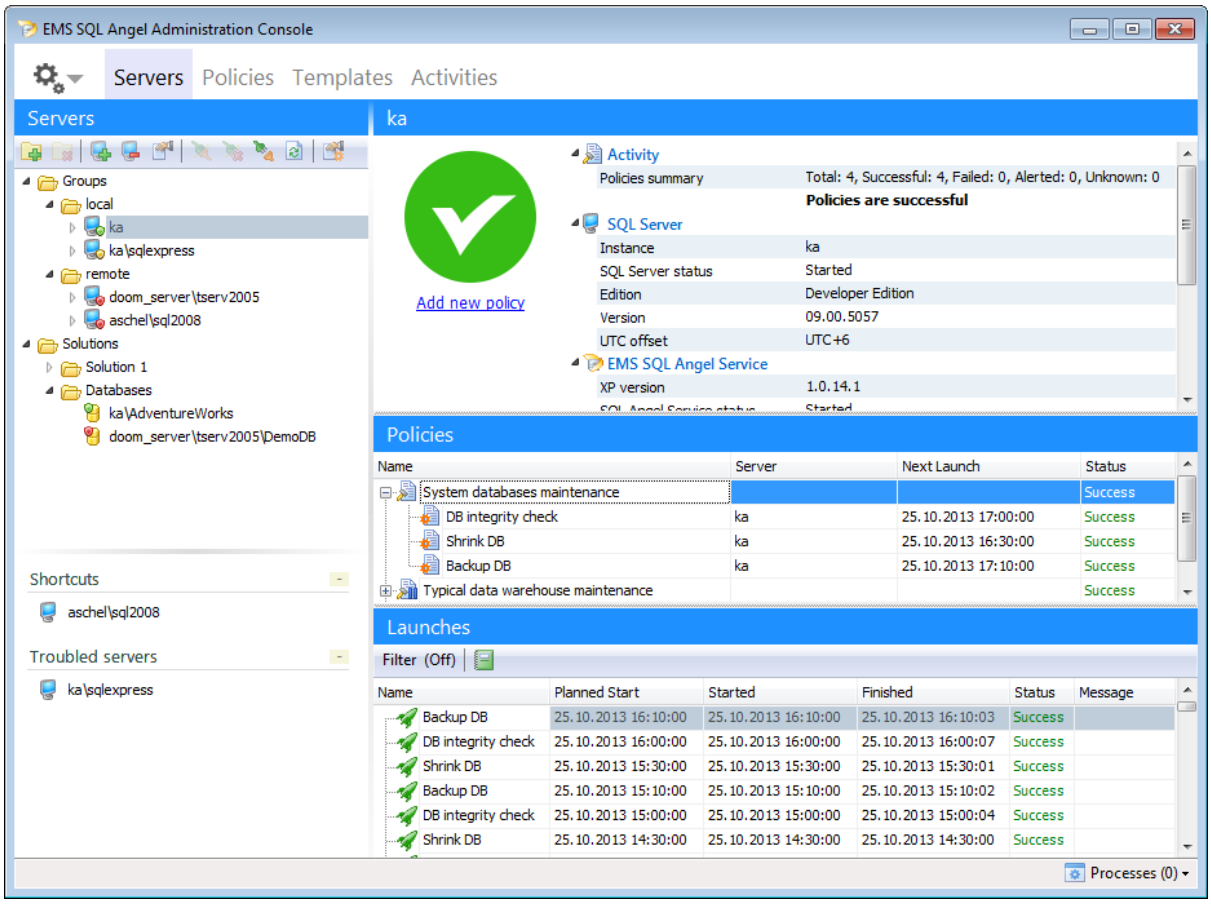
Part



3 Servers

This chapter contains sufficient information concerning server management and policy execution. Below you can see the overall information about basic working area sections.



Servers

The Explorer area allows you to access servers and databases. Servers and databases can be included in Groups and Solutions.
Groups are used to organize servers by some specific criteria (for example, location).
Solutions unite servers to be included into one Policy. The same server can be included into several solutions. To add server to a Solution simply drag-and-drop it from the group to a solution folder.

You can change objects order dragging them within the Explorer tree.

Shortcuts

This panel is used for quick access to the groups\servers\databases. To add a object to the Shortcuts list use the corresponding menu item from the server\database popup menu *(Shift+Insert)* or drag the object to the Shortcuts.

Troubled servers

This panel displays servers which have problem policies. You can review the servers and

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resolve the problems.

Overall status

It shows the status of the selected server, information about SQL Server and EMS SQL Angel Service installed on the server and policies summary:

Policies are successful - there is a connection to the server and all polices have been executed successfully.
There are no policies - there is a connection to the server but no policies are created.

Server isn't connected - there is no connection to the server.

Angel service isn't installed - service components are not installed on the server.

Policies have problems - there have been some errors on policy execution. You can resolve the problems using the **Resolve the problem** option.

Some of policies have unknown status - status for some of the policies is unknown. It usually occurs when launch time has passed but policy was not started or if there is connection to the server to get actual policy status.

Policies have warnings - there have been some warnings on policy execution. Warnings include out-of-range parameters for Database Parameters Logger and some minor warnings on execution that do not affect the final result.

Server status

- The server, which is not connected and has no SQL Angel server-side components installed.

- The connected server without SQL Angel server-side components installed.

- The server is being refreshed.

- Connection to the server cannot be established. Check the SQL Server connection info.

- The server with SQL Angel server-side components installed.

- The server with SQL Angel server-side components installed. Connection to the server is not established.

- The server has some erroneous policies. You can fix them using Resolve the Problem dialog.

- The server has some warnings on policy execution.

 - All policies on the server are successful.

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- The server has policies with 'Unknown' status.

Note: Databases have states as well. To learn about them see the Database states topic.

Policies

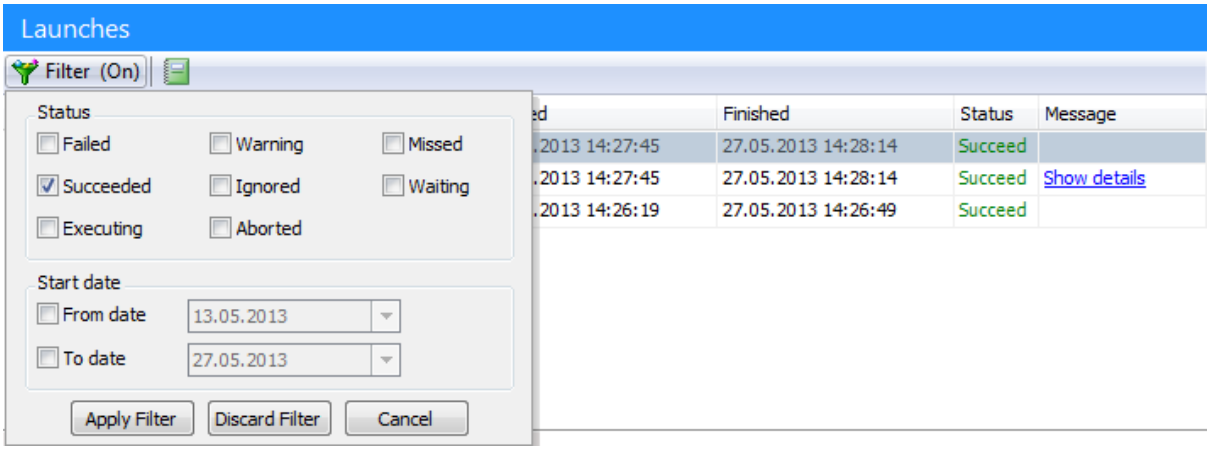
The grid displays all information about the policies deployed on the selected object. You can get information about policy result status and next launch time.
Double-click the policy or task to execute it.
If the policy or task is erroneous double-clicking will initiate Resolve the problem dialog.
The context menu of the selected policy allows you to:

- resolve the problem (for erroneous policy)

execute a policy
pause policy execution
view policy history
edit policy in Policy editor

Launches

Each policy consists of a set of tasks. This area displays information about task launches, launch date and time, task status and message. You can review tasks execution and *execute* the task manually or *ignore* the problems using the popup window. Set the limit of days for displaying in the dialog Environment Options at the Refresh options tab.



Launches can be filtered by status or execution date using the **Filter** button.
To apply or discard filter use corresponding buttons.

Use the **Show details** button in the Message column to view detailed information about the performed step or errors or warnings depending on the status.

You can generate launches and policy reports using the **Report** button.

See also:
Getting Started

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Policies
Templates
Activities
Maintenance Actions
Options

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3.1 Popup menus

Popup menu of the object contains the list of actions that can be applied to the object. The following popup menus are available in the DB Explorer at **Servers** tab.

Group popup menu
Groups popup menu
Server popup menu
Database popup menu

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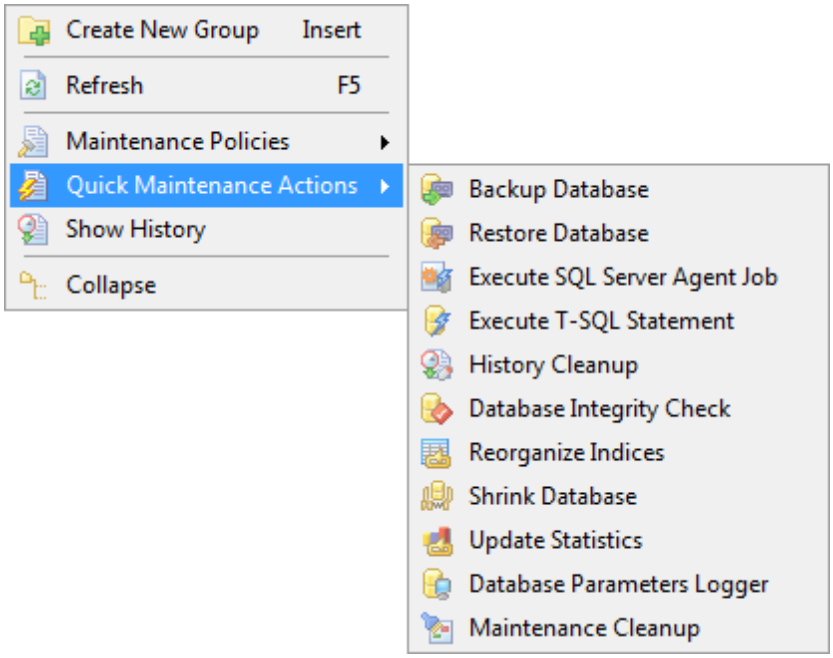
3.1.1 Groups popup menu

The popup menu is available for the top **Groups** node at DB Explorer.



Create New Group (or *Ins* key)
Refresh servers and policies (or *F5* key)
Maintenance Policies
- **Create new Policy**
- **Create from Templates** to create a policy based on the created template.
- **Convert from Maintenance Plan** runs the Maintenance plan conversion wizard.

Quick Maintenance Actions - open the list of Maintenance Actions for quick launch.
Show history opens the Viewing Policy History window.
Collapse all groups
Expand all groups

See also:
Group popup menu
Server popup menu
Database popup menu

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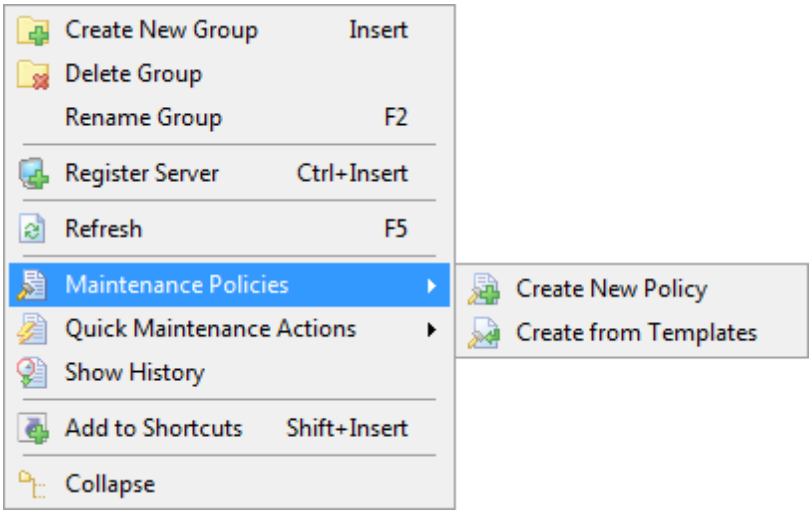
3.1.2 Group popup menu

The popup menu is available at the **Group** node at DB Explorer.



Create New Group (or *Ins* key)
Delete Group
Rename Group (or *F2* key)
Register server. The Register Server Wizard is started.
Refresh group subobjects
Maintenance Policies
Create New Policy
Copy from Templates to create a policy based on the created template.
Quick Maintenance Actions - open the list of Maintenance Actions for quick launch.
Show history opens the Viewing Policy History window.
Add to shortcuts the selected object (or *Shift+Ins*)
Collapse all groups
Expand all groups

See also:
Groups popup menu
Server popup menu
Database popup menu

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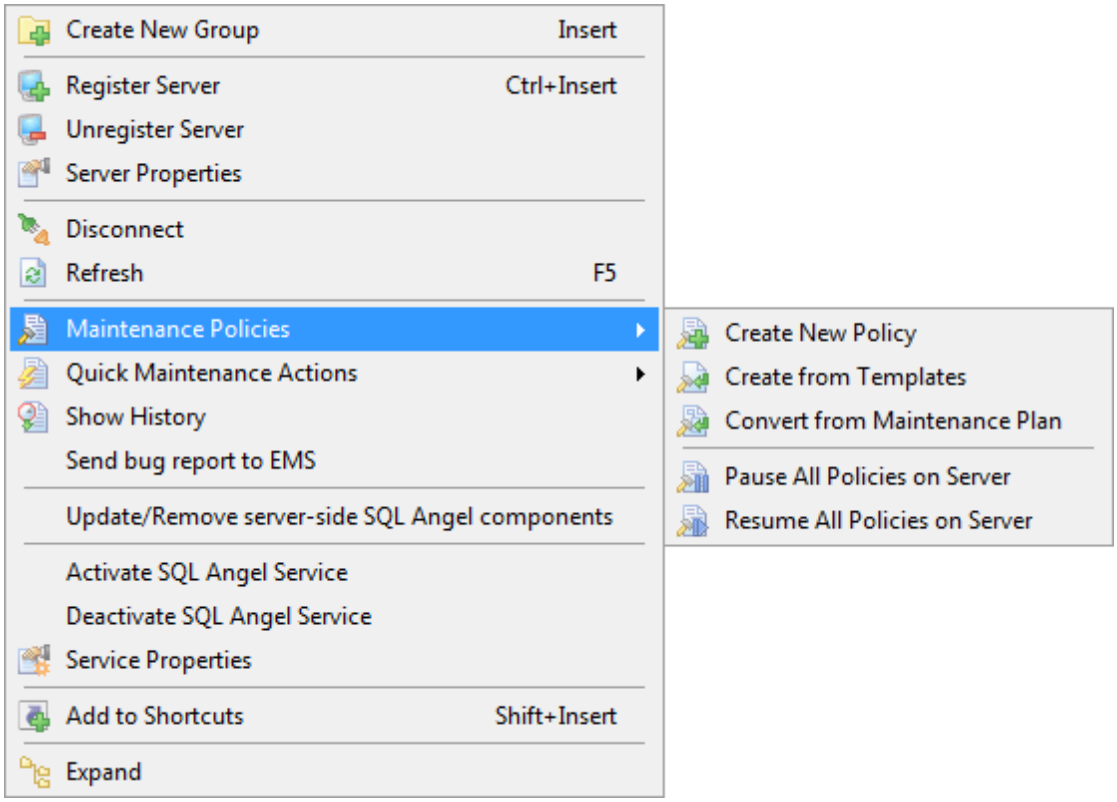
3.1.3 Server popup menu

This popup menu is available for the server at DB Explorer.



Create New Group (or *Ins* key)
Register Server launches the Register Server Wizard.
Unregister Server
view Server Properties
Refresh server subobjects and policies (or *F5* key)
Maintenance Policies
- **Create new Policy**
- **Create from Templates** to create a policy based on the created template.
- **Convert from Maintenance Plan** runs the Maintenance plan conversion wizard.
- **Pause All Policies on Server** stops policy scheduled execution until resuming
- **Resume All Policies on Server** launches all stopped policies of the server

Quick Maintenance Actions opens the list of Maintenance Actions for quick immediate launch.
Show History opens the Viewing Policy History window.
Send bug report to EMS
Install/Update/Remove server-side SQL Angel components runs the corresponding wizard.
Activate SQL Angel Service
Deactivate SQL Angel Service
view **Service properties**

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Add the selected object **to shortcuts**
Collapse all groups
Expand all groups

See also:
Group popup menu
Groups popup menu
Database popup menu

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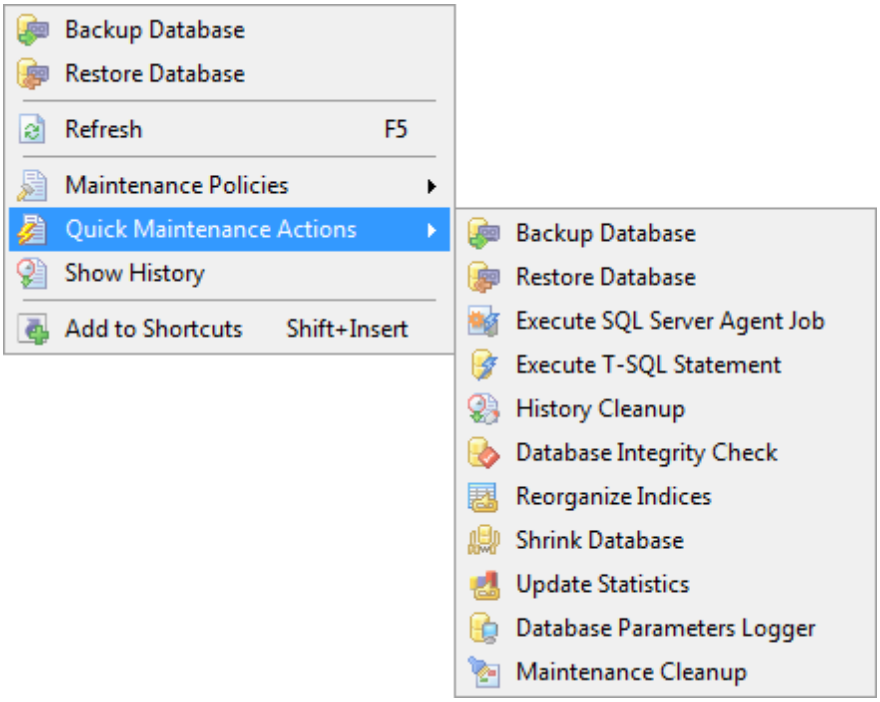
3.1.4 Database popup menu

This popup menu is available for the database at DB Explorer.



Backup the selected database.
Restore the selected database.
Refresh databases and policies (or *F5* key).
Quick Maintenance Actions - open the list of Maintenance Actions for quick launch.
Maintenance Policies
- **Create new Policy**
- **Create from Templates** to create a policy based on the created template.
- **Convert from Maintenance Plan** runs the Maintenance plan conversion wizard.
- **Pause All Policies on Server** stops policy scheduled execution until resuming
- **Resume All Policies on Server** launches all stopped policies of the server

Show History opens the Viewing Policy History window.
Add to selected object to shortcuts

See also:
Group popup menu
Groups popup menu
Server popup menu

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3.2 Register Server Wizard

This wizard guides you through the server registration. To launch the wizard select the **Register Server** popup menu item in the navigation panel or from the main menu.

Steps:
Specifying connection parameters
Defining additional options
Performing operation

See also:
Install Server Components
Update/Remove Server-side SQL Angel Components
Service properties
Server properties

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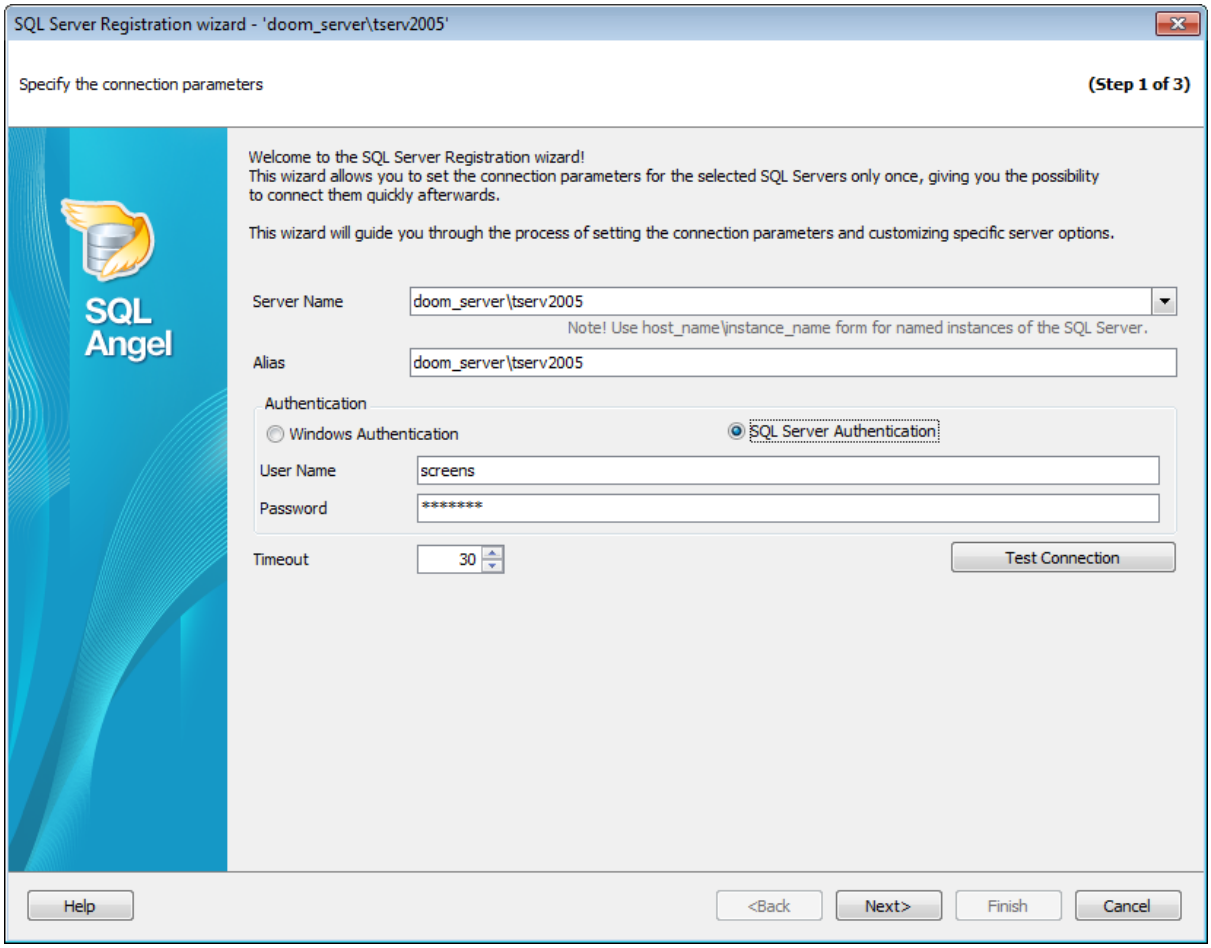
3.2.1 Specifying connection parameters

This step of the wizard provides you with major set of options needed to register a server.


SQL Server Registration wizard - 'doom_server\tserv2005'
Specify the connection parameters
(Step 1 of 3)
SQL Angel
Welcome to the SQL Server Registration wizard!
This wizard allows you to set the connection parameters for the selected SQL Servers only once, giving you the possibility to connect them quickly afterwards.
This wizard will guide you through the process of setting the connection parameters and customizing specific server options.
Server Name
doom_server\tserv2005
Note! Use host_name\instance_name form for named instances of the SQL Server.
Alias
doom_server\tserv2005
Authentication
Windows Authentication
SQL Server Authentication
User Name
screens
Password
****
Timeout
30
Test Connection
Help
<Back
Next>
Finish
Cancel

Server Name
Use this field to select server to register. You can select host from the drop-down list or type in a host name manually.
Please note that if Microsoft® SQL Server™ is installed as a named instance, you should enter the name of your machine and the instance name in the **Server name** field in the following format: *computer_name\sqlserver_instance_name* (e.g. "*MYCOMPUTER\SQLEXPRESS*").

Alias
Define the server alias which is displayed in the DB Explorer tree and program tools. By default, a server alias generated by the application has the following format: <server_name>.

Authentication
Specify the type of Microsoft® SQL Server™ authentication to be used for the connection: *Windows* authentication or *SQL Server* authentication.

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SQL Server authentication requires *authorization* information: **User name** and **Password**.

Timeout
Use this option to restrict time for **SQL Angel** to connect to server.

Test connection
You can test specified connection settings by pressing this button.

Next step >>

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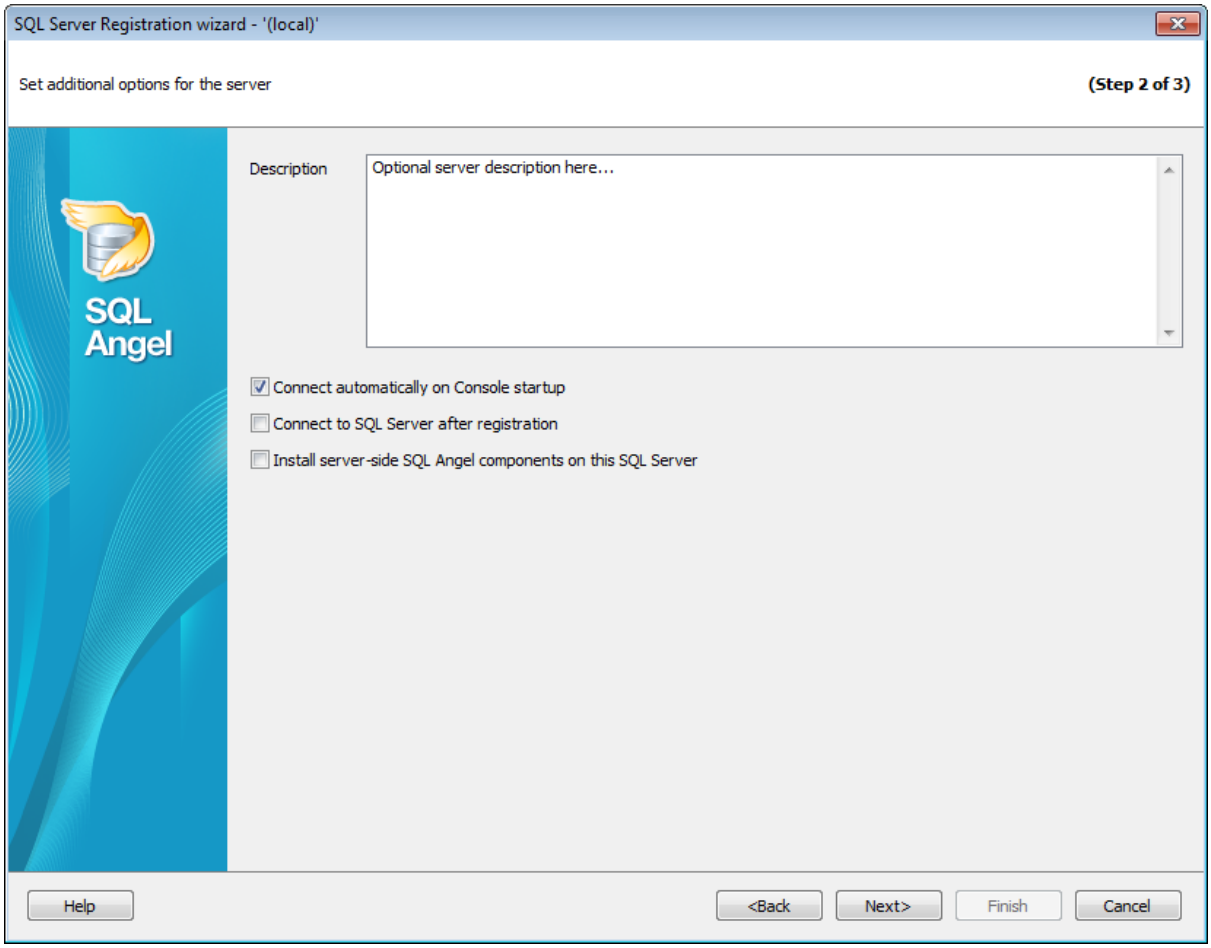
3.2.2 Defining additional options

At this step you can define the options for the registered servers and finish registering the server.



Connect automatically on Console startup
This option defines whether connection to the registered server should be performed on startup.

Connect to SQL Server after registration
Enable the option to connect to the server right after it has been registered.

Install server-side SQL Angel components on this SQL Server
If this option is checked then the Install Server Components wizard will be launched automatically after server is registered.

<< Previous step Next step >>

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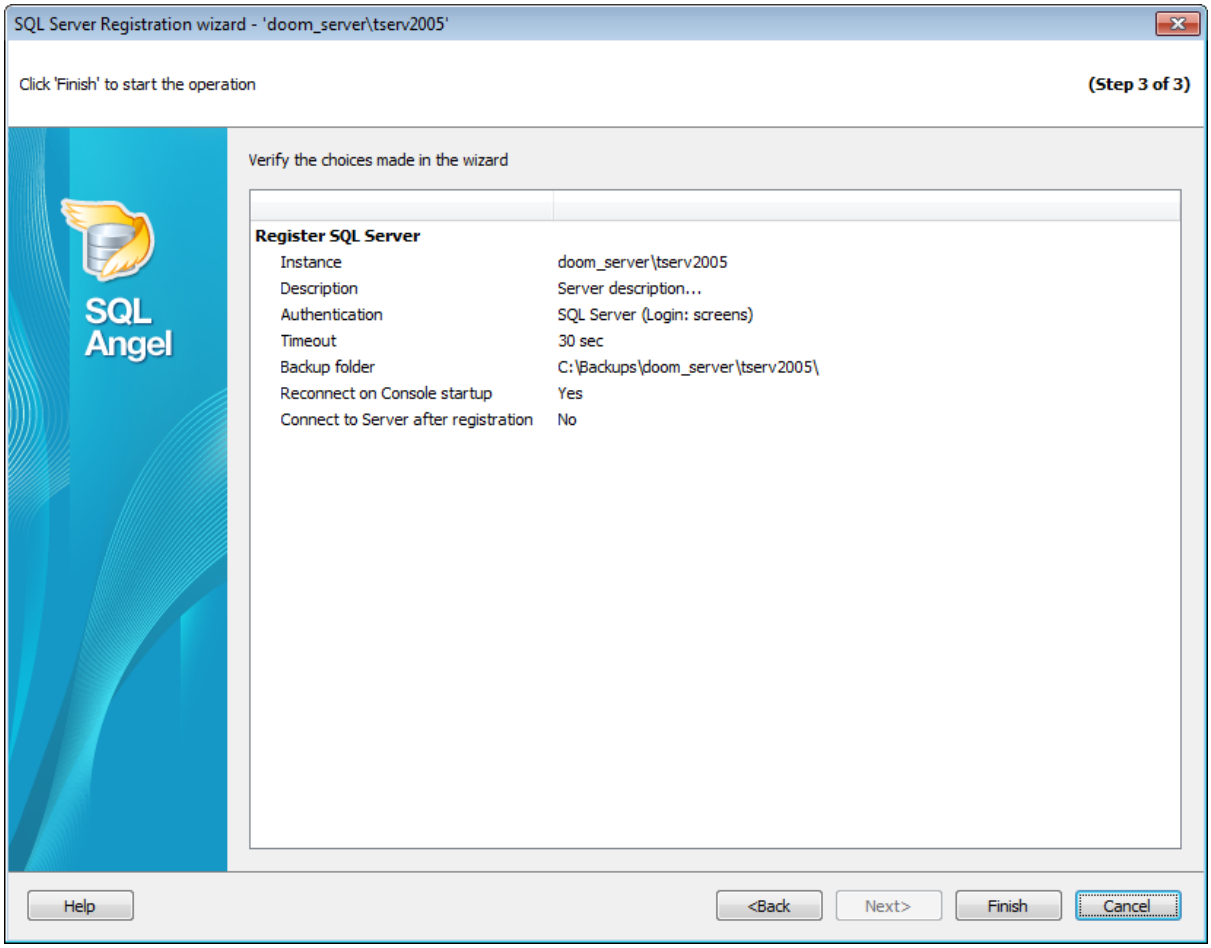
3.2.3 Performing operation

This step of the wizard is intended to inform you that all necessary options have been set, and you can start the process.



Press the **Finish** button to register the server.

[<< Previous step]

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3.3 Install Server Components

SQL Angel utility consists of two parts: server-side components and GUI administration console.
To start working with SQL Angel you need to install server-side components. To run the installation wizard select the **Install Server-side SQL Angel Components** item in the server popup menu at Servers tab.

Server-side components

They are installed locally or remotely on all MS SQL server instances that will be managed within the utility. They include services and stored procedures (installed into *master* database) for server maintaining and reviewing.

SQL Angel Administration Console

It is installed locally on the Administrator machine for easy administration of the servers. On installation the program installs the console program and configures the repository.

You need Local system or Local administration permissions to work with server and services.

Steps:
Selecting installation type
Specifying authorization information
Specifying service log-on settings
Performing operation

See also:
Register Server Wizard
Update/Remove Server-side SQL Angel Components
Service properties
Server properties

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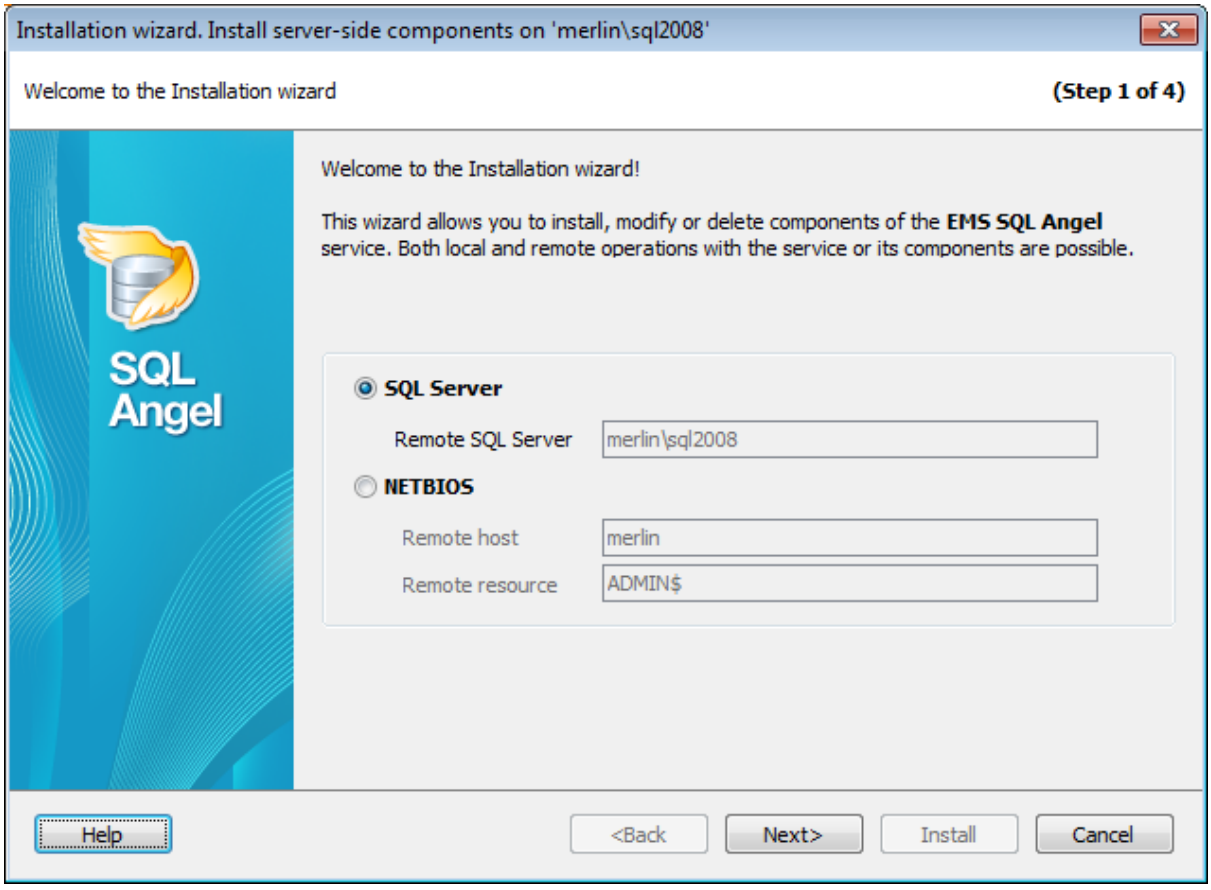
3.3.1 Selecting installation type

At this step of the wizard you need to specify SQL Angel service installation type.


Installation wizard. Install server-side components on 'merlin\sql2008'
Welcome to the Installation wizard
(Step 1 of 4)
SQL Angel
Welcome to the Installation wizard!
This wizard allows you to install, modify or delete components of the EMS SQL Angel service. Both local and remote operations with the service or its components are possible.
SQL Server
Remote SQL Server
merlin\sql2008
NETBIOS
Remote host
merlin
Remote resource
ADMIN$
Help
<Back
Next>
Install
Cancel

If you are installing server components on the local server then on the first step the server name is displayed.

For a remote server choose the way the service will be installed.

SQL Server
Install service via SQL Server API functions.

NetBIOS
Install service via NetBIOS.

The **Remote resource** displays that *ADMIN$* share will be used for installing software on the selected **Remote host**. Please make sure that you have sufficient privileges to perform this operation.

Next step >>

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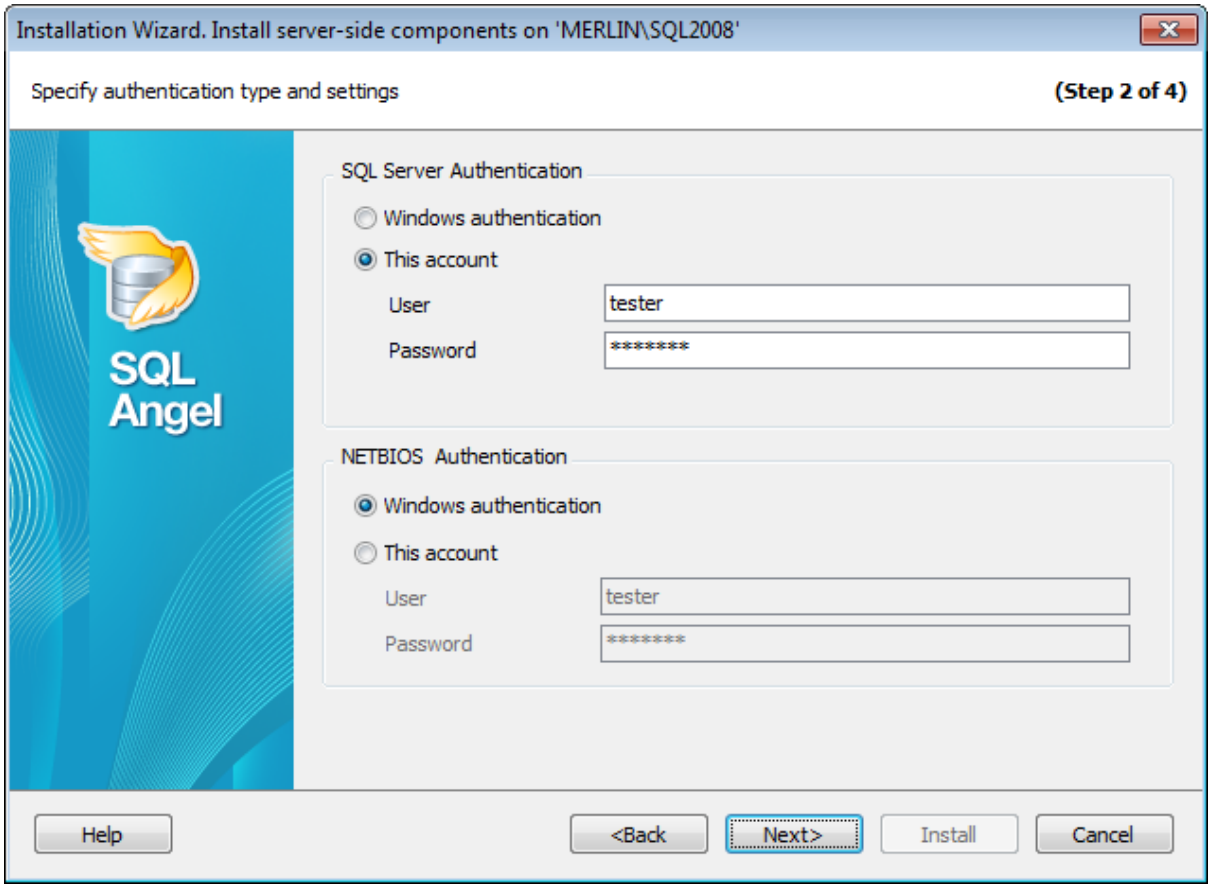
3.3.2 Specifying authorization information

This step allows you to define authorization information for connecting SQL Angel service to MS SQL server.



SQL Server Authentication
Specify the authentication type to be used for installing and further work of the service **Windows authentication** or **This account** (provide authorization settings: **User** and **Password**). The specified info will be used for service connecting to the SQL Server instance on the server machine. You can change the connection info at the Service Properties dialog.

NETBIOS Authentication
Specify the authentication type to be used for installation of the service **Windows authentication** or **This account** (provide authorization settings: **User** and **Password**)
Note: This option is available only if the **NetBIOS** installation type was selected on the first step.

<< Previous step Next step >>

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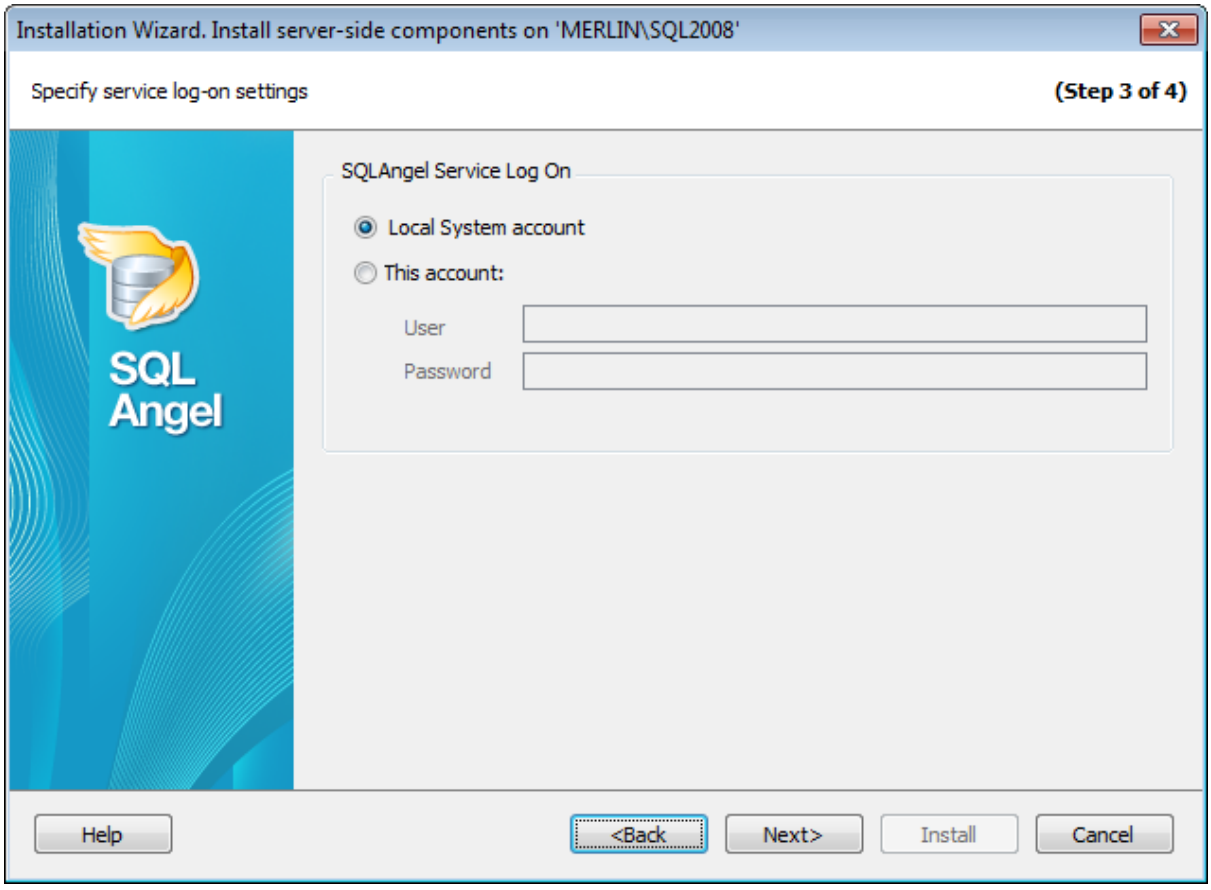
3.3.3 Specifying service log-on settings

At this step you should define service log-on information for SQL Angel Service.



Local System account
Select this option to use the local system account.

This account
This option allows SQL Angel to use specified system account to connect to SQL Server. It can be useful when local system account provides insufficient permissions to perform the operation.

You need Local system or Local administration permissions to work with server and services.

[<< Previous step](#) [Next step >>](#)

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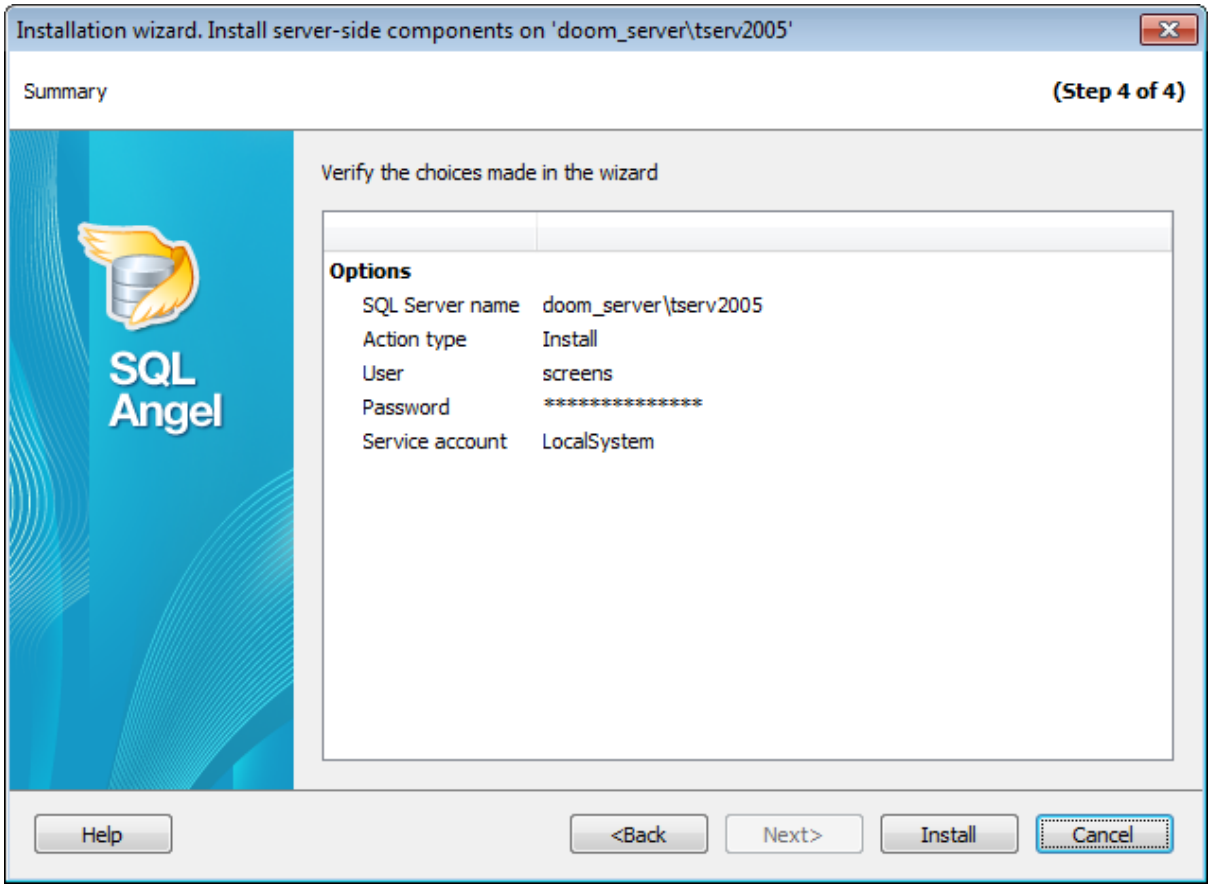
3.3.4 Performing operation

This step of the wizard is intended to inform you that all necessary options have been set, and you can start the installation process.



You can **Verify the choices made in wizard** in the corresponding area and click the **Install** button to complete the operation.

<< Previous step

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3.4 Update/Remove Server-side SQL Angel components

Use this wizard to delete or update SQL Angel Components at the server. After uninstalling all jobs linked with policies will be deleted.

Note: In *Update* mode all instances of the selected server are updated.

Select **Update/Remove server-side SQL Angel Components** item from the server's popup menu at the Servers tab.

Steps:
Selecting the server
Specifying authorization information
Selecting operation type
Specifying service log-on settings
Performing operation

See also:
Register Server Wizard
Install Server Components
Service properties
Server properties

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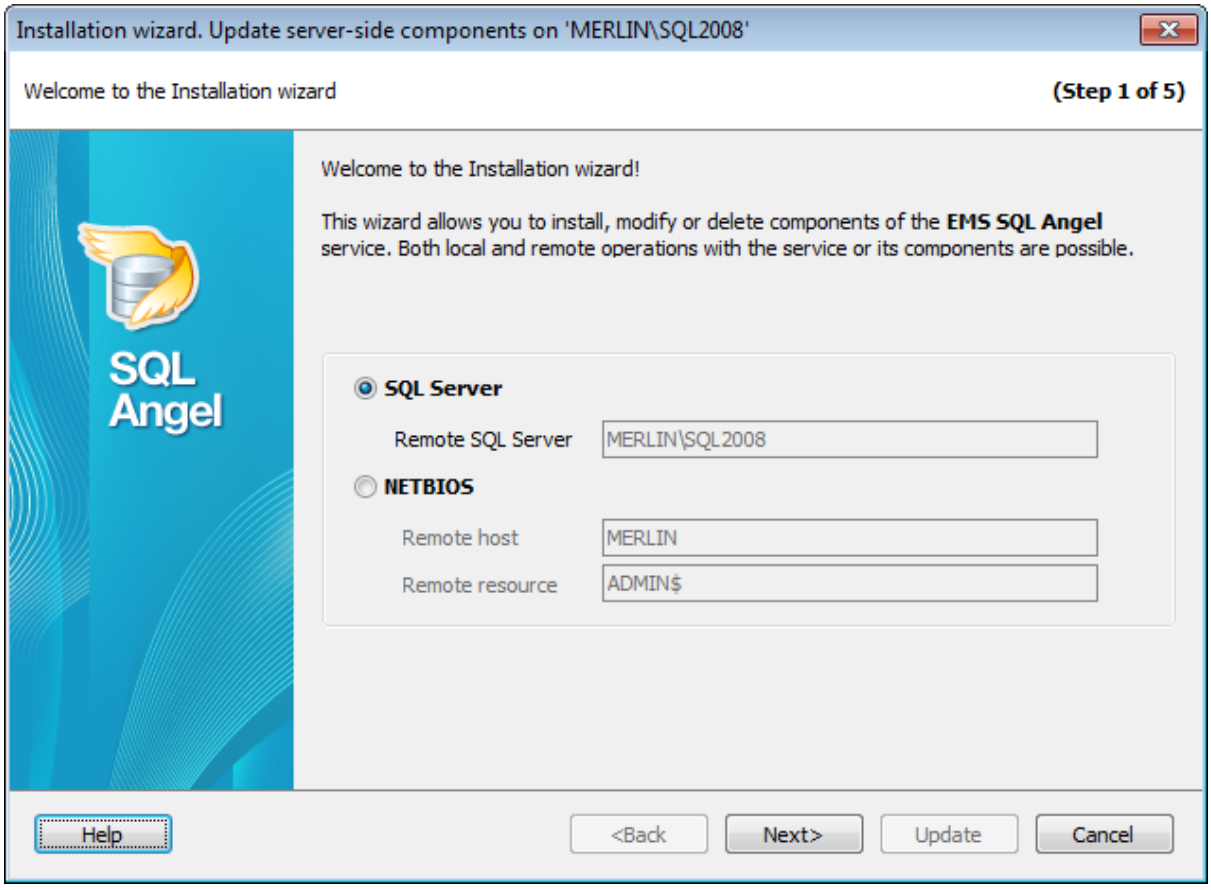
3.4.1 Selecting updating/removing type

Select SQL Angel service updating/removing type.


Installation wizard. Update server-side components on 'MERLIN\SQL2008'
Welcome to the Installation wizard
(Step 1 of 5)
SQL Angel
Welcome to the Installation wizard!
This wizard allows you to install, modify or delete components of the EMS SQL Angel service. Both local and remote operations with the service or its components are possible.
SQL Server
Remote SQL Server
MERLIN\SQL2008
NETBIOS
Remote host
MERLIN
Remote resource
ADMIN$
Help
<Back
Next>
Update
Cancel

If you are updating/uninstalling server components on the local server then on the first step the server name is displayed.

For a remote server choose the way the service will be updated/uninstalled.

SQL Server
Update/uninstall service via SQL Server API functions.

NetBIOS
Update/uninstall service via NetBIOS.

The **Remote resource** displays that *ADMIN$* share will be used for installing software on the selected **Remote host**. Please make sure that you have sufficient privileges to perform this operation.

Next step >>

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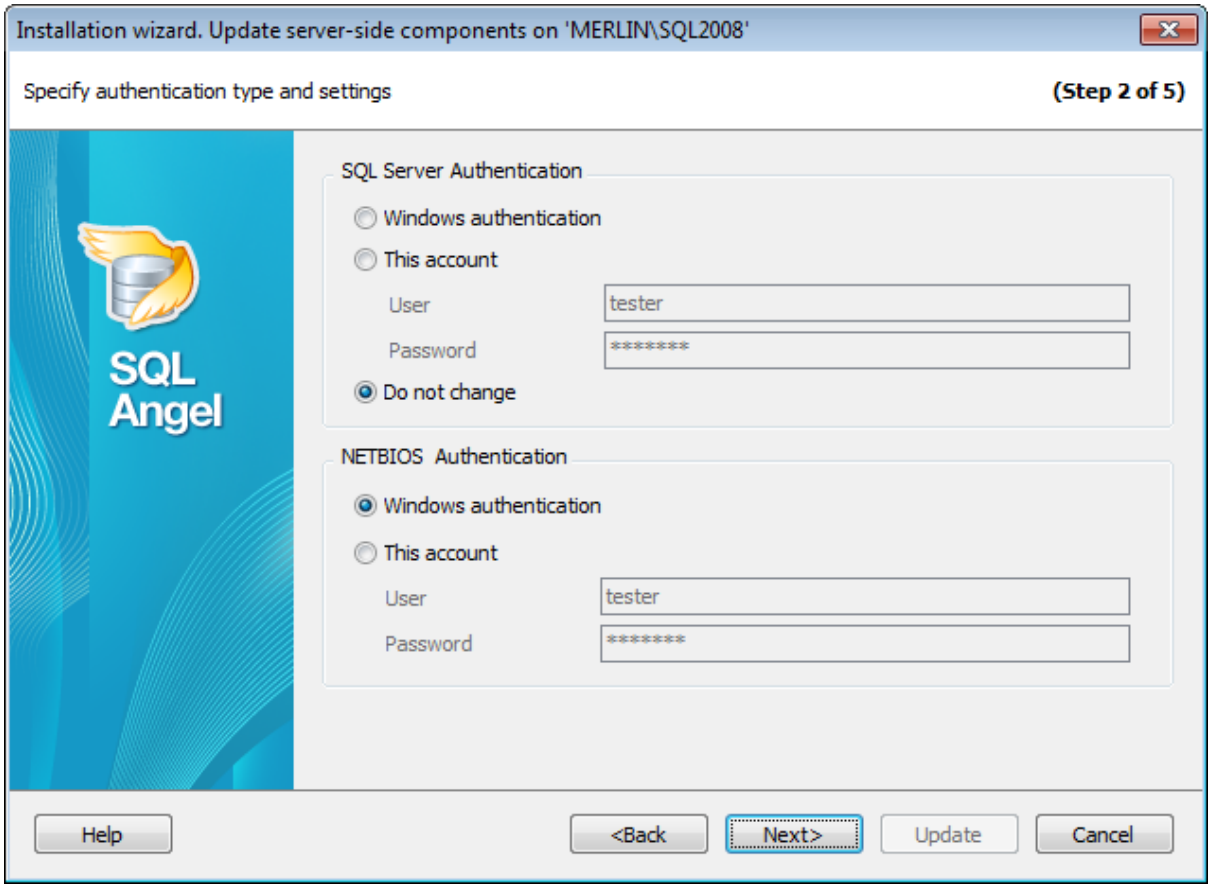
3.4.2 Specifying authorization information

This step allows you to define the authorization information.



SQL Server Authentication
Specify the authentication type to be used for the service to connect to the server **Windows authentication** or **This account** (provide authorization settings: **User** and **Password**).

Do not change
Use the option to keep previously specified account unchanged.

NETBIOS Authentication
Specify the authentication type to be used for connection to the service **Windows authentication** or **This account** (provide authorization settings: **User** and **Password**).
Note: This option is available only if the **NetBIOS** updating/uninstalling type was selected on the first step.

<< Previous step Next step >>

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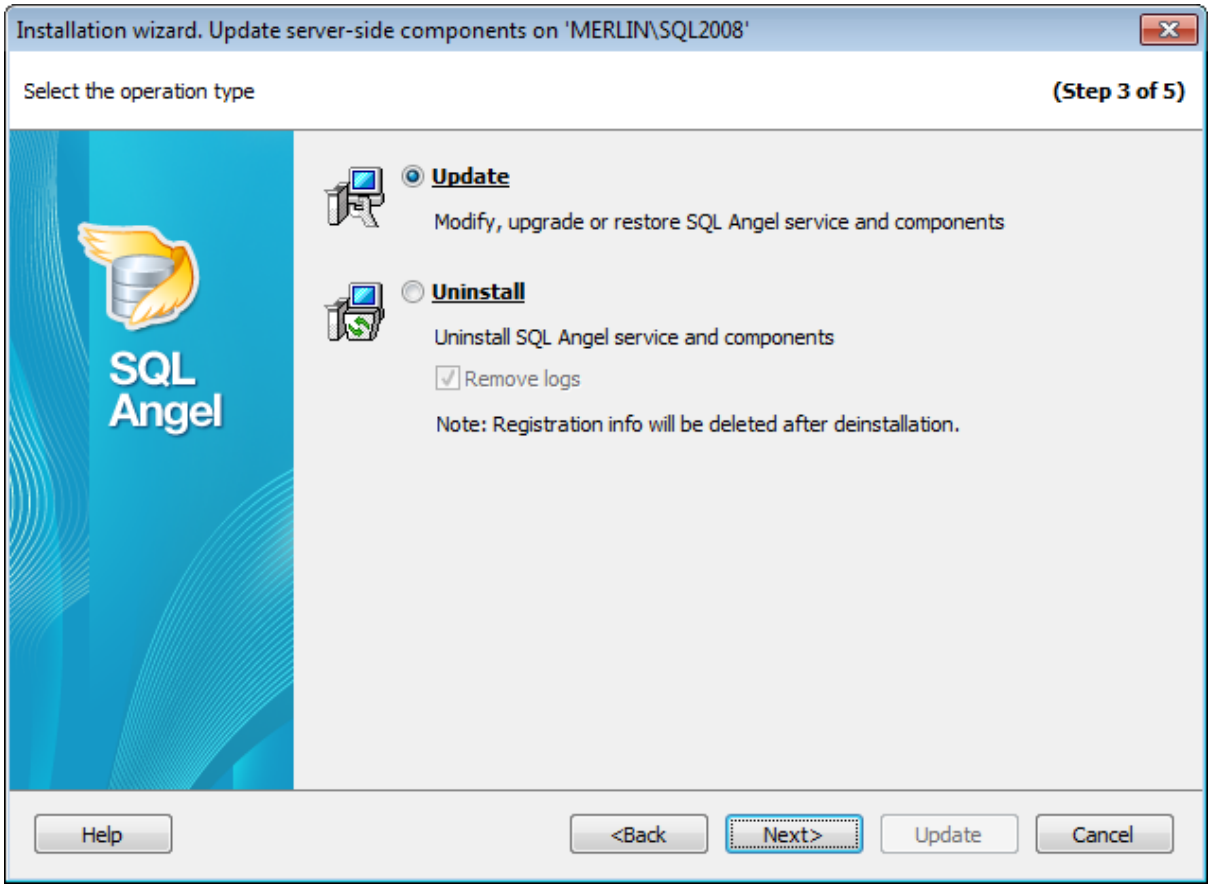
3.4.3 Selecting operation type

Use this step of the wizard to select the required operation.



Update
Select this option to upgrade or restore **SQL Angel service** and components. You can use this option to keep the service up-to-date.

Uninstall
Uninstall SQL Angel service and components. SQL Angel service, server-side components and jobs created by the program will be uninstalled from the selected server.

Remove logs
Check this option to clear the information about tasks execution from History Viewer.

<< Previous step Next step >>

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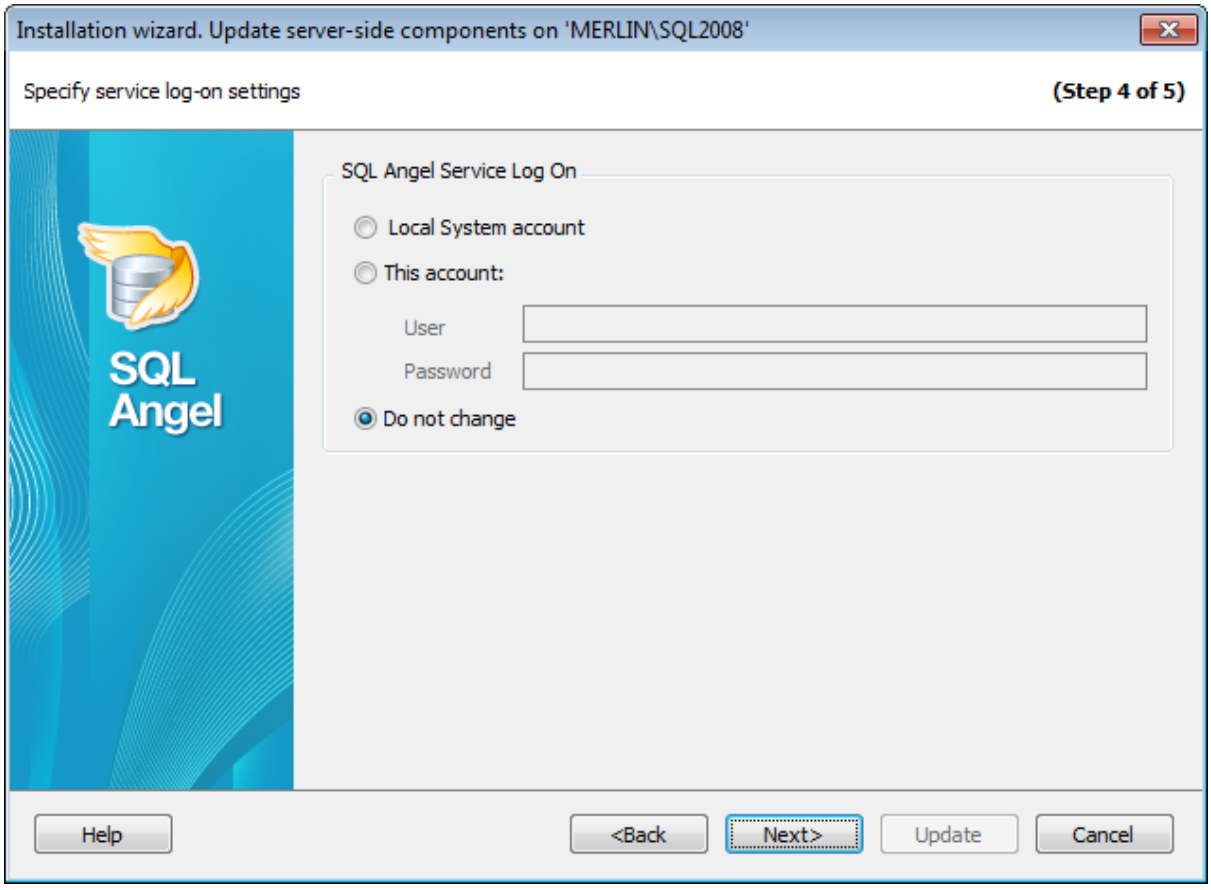
3.4.4 Specifying service log-on settings

At this step you should define service log-on information.



Local System account
Select this option to use the local system account.

This account
This option allows **SQL Angel** to use specified system account to connect to **SQL Server** . It can be useful when local system account provides insufficient permissions to perform the operation.

Do not change
Use the option to keep previously specified account unchanged.

[<< Previous step](#) [Next step >>](#)

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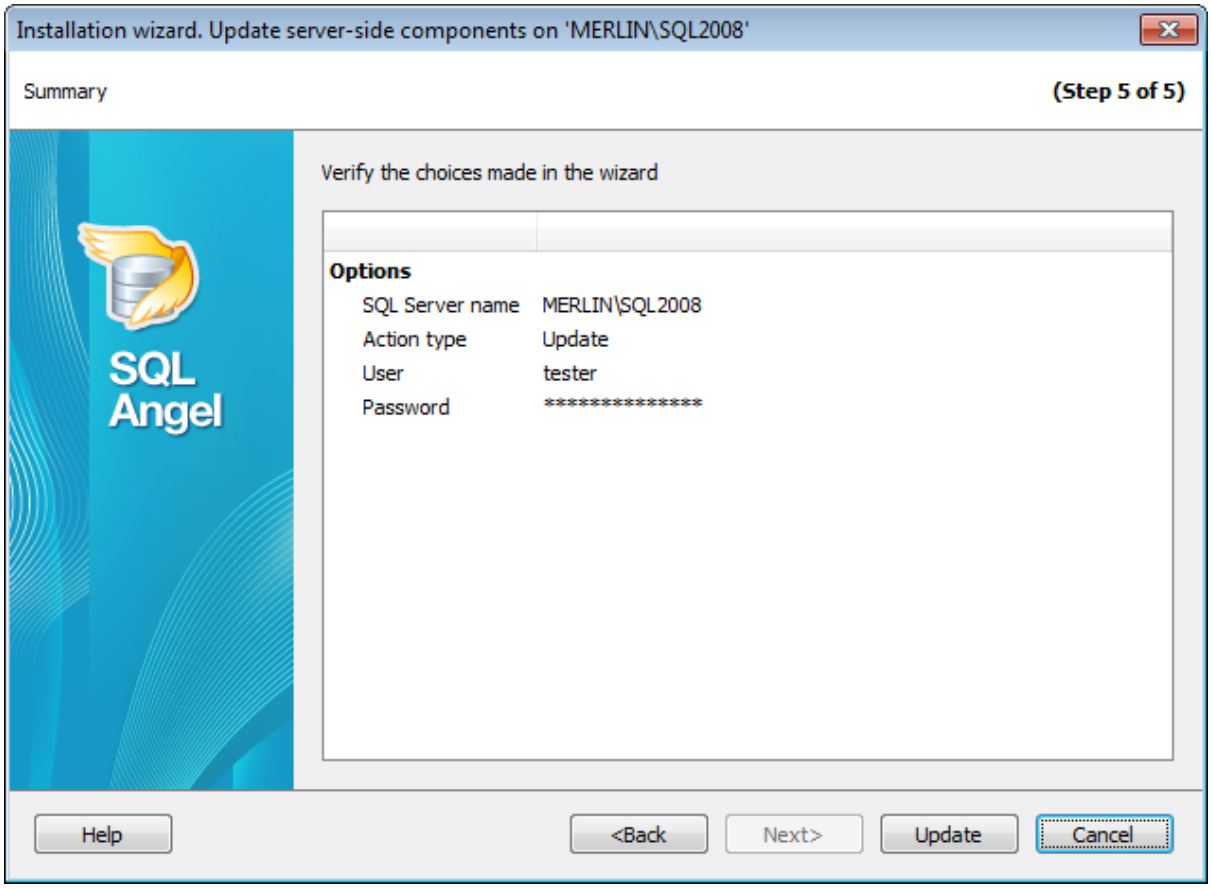
3.4.5 Performing operation

This step of the wizard is intended to inform you that all necessary options have been set, and you can start the installation process.



You can **Verify the choices made in wizard** in the corresponding area and click the **Update\Remove** button to complete the operation.

[<< Previous step]

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3.5 Stand-alone remote components Installer

Installation Wizard is a tool for local installation of server-side components on every SQL Server instance.
This installer is distributed with EMS SQL Angel for local installation on the server.

If you cannot install, modify or delete SQL Angel components from the SQL Administration Console (using the Install Server Components or Update/Remove Server-side SQL Angel Components wizards) due to some reasons you can launch the installer directly on the server machine.
In order to do this copy the EMS SQL Angel setup file to the server machine and then launch it. On the third step of this wizard choose the *Server-side only* mode. After the EMS SQL Angel Setup wizard is finished the Installation Wizard for installing server-side components is launched.

This wizard allows you to install, modify, or delete components of the SQL Angel service.

Steps:
Welcome
Choosing the necessary operation
Selecting instances
Specifying account information
Verifying the choices
Performing operation

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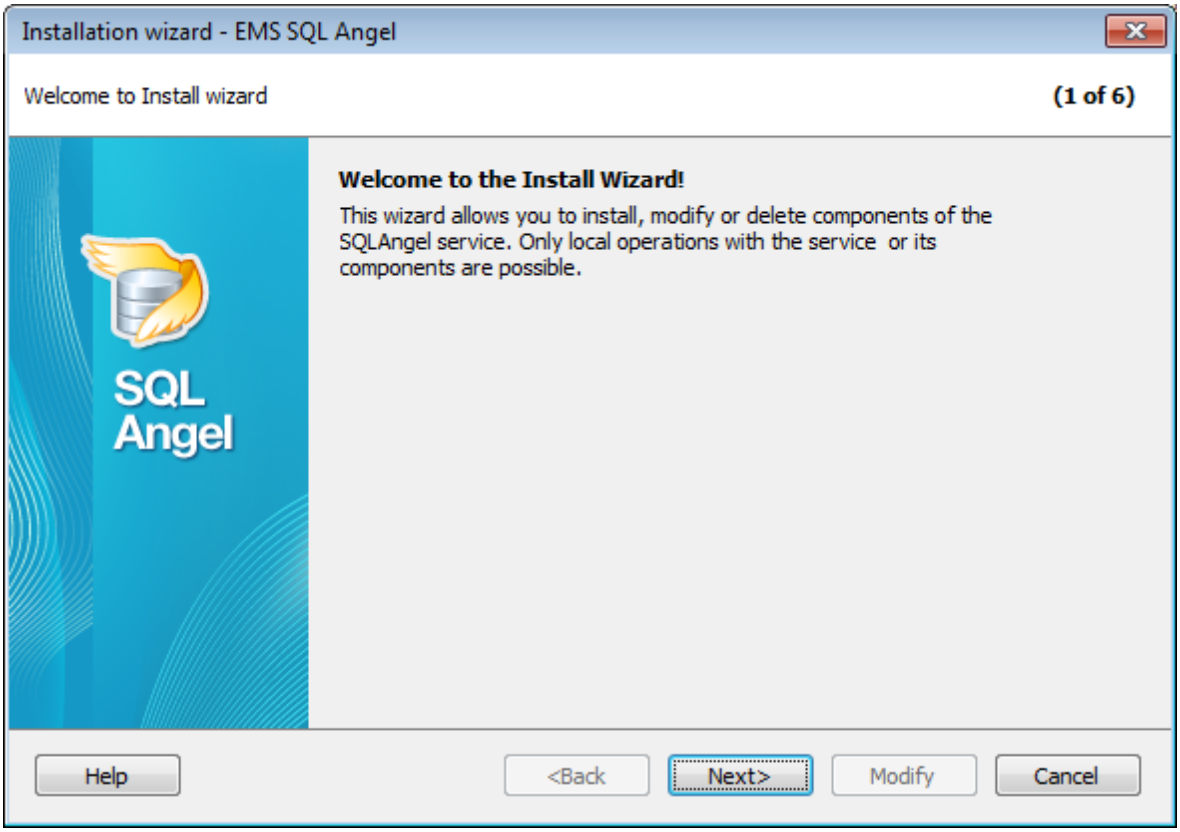
3.5.1 Welcome

This wizard allows you to install, modify, or delete components of the SQL Angel service.


Installation wizard - EMS SQL Angel
Welcome to Install wizard
(1 of 6)
Welcome to the Install Wizard!
This wizard allows you to install, modify or delete components of the SQLAngel service. Only local operations with the service or its components are possible.
SQL Angel
Help
<Back
Next>
Modify
Cancel

Next step >>

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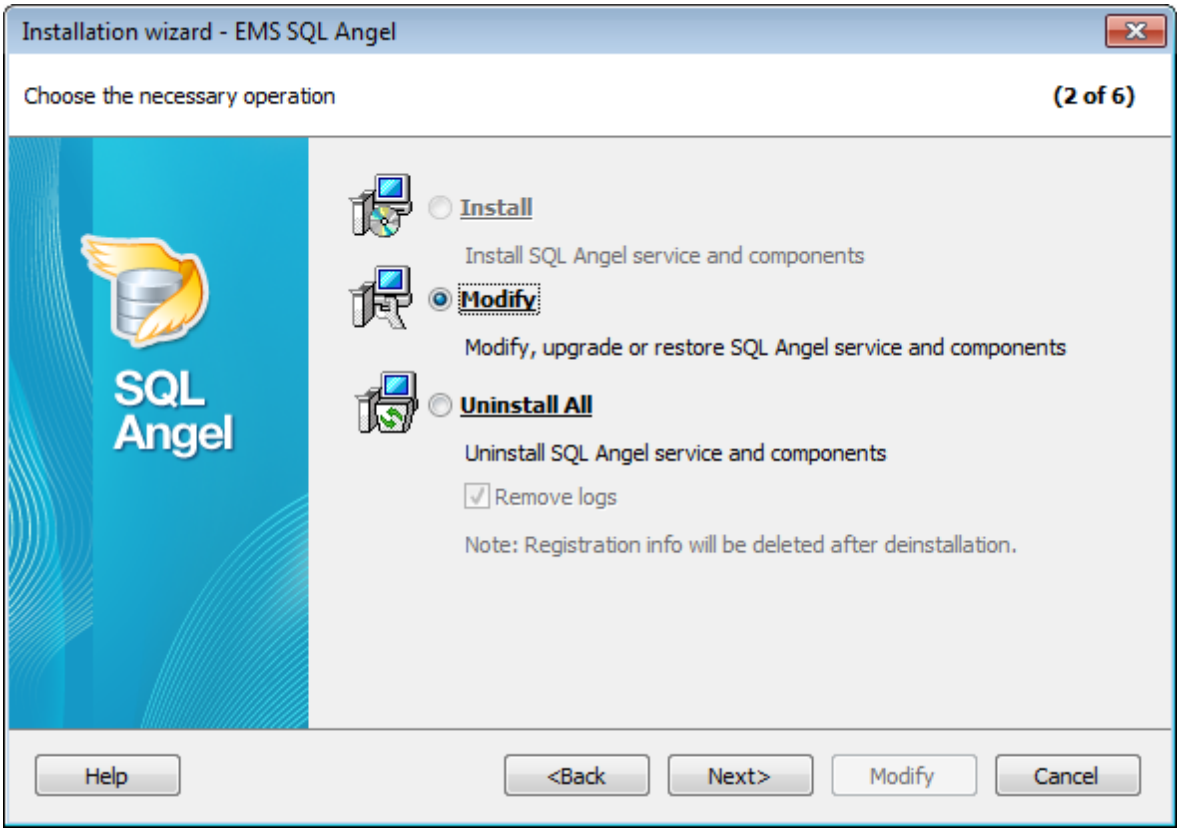
3.5.2 Choosing the necessary operation

Use this step of the wizard to select the required operation.



Install
Select this option to install **SQL Angel service** and components.

Modify
Select this option to upgrade or restore **SQL Angel service** and components. You can use this option to keep the service up-to-date.

Uninstall All
Uninstall SQL Angel service and components. SQL Angel service, server-side components and jobs created by the program will be uninstalled from the selected server.

Remove logs
Check this option to clear the information about tasks execution from History Viewer.

<< Previous step Next step >>

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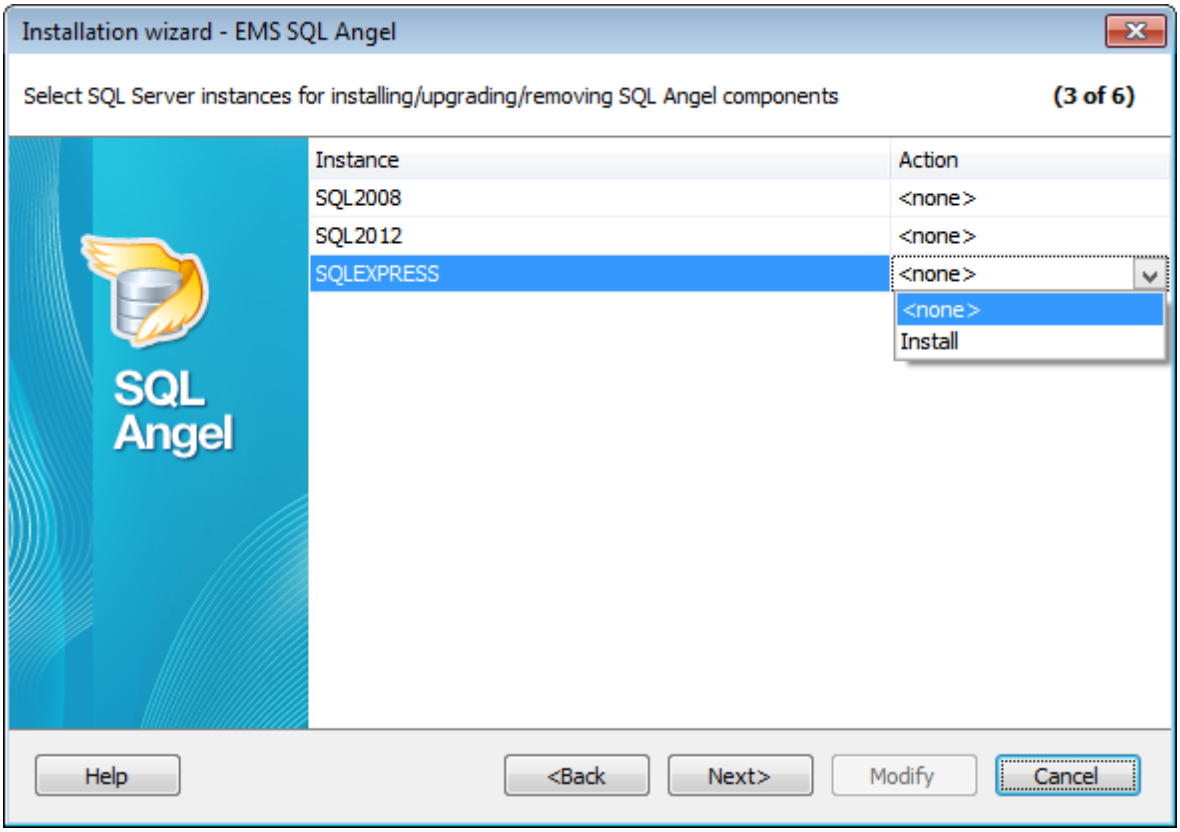
3.5.3 Selecting instances

At this step you should select the appropriate action for each instance of the server.



Use the **Action** field to select an action for each server instance to be executed:

- *Install services*
- *Update services*
- *Remove services*

If you choose the **Install** item the dialog window for setting instance connection parameters appears.

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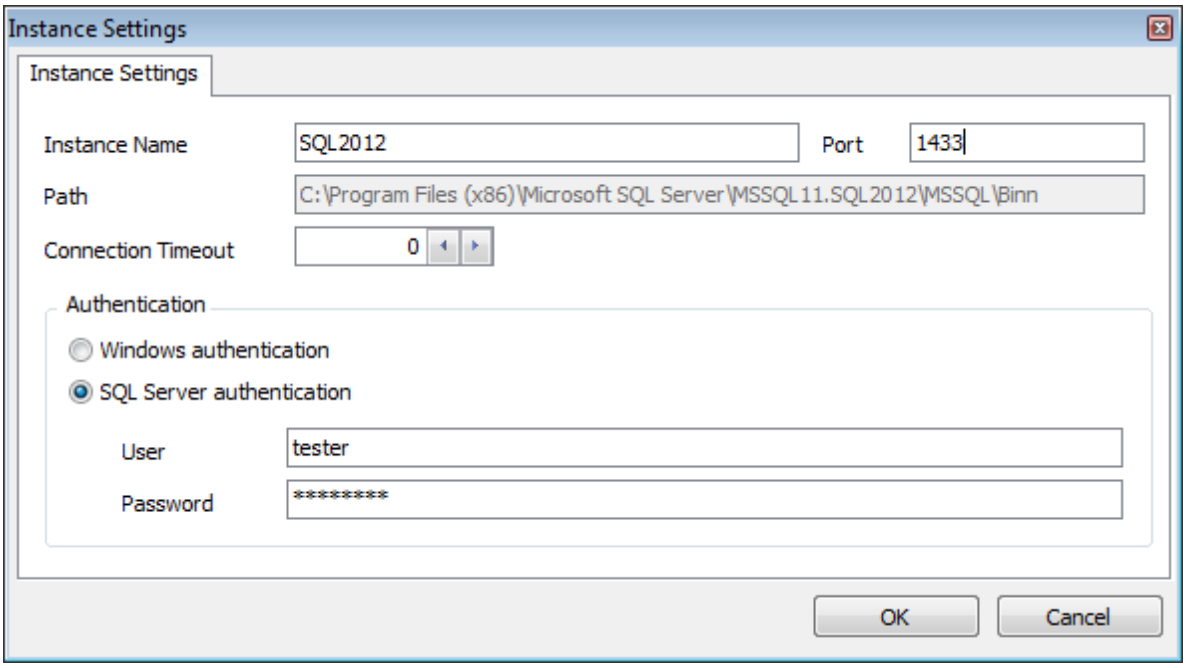

Instance name
Use this field to edit instance name.

Port
Identify the TCP/IP port used by the SQL Server Instance.

Path
Define the local path to the server.

Connection Timeout
Specify time to wait while trying to establish a connection to the instance before terminating the attempt and generating an error

Authentication

Specify the type of Microsoft® SQL Server™ authentication to be used for the connection: *Windows* authentication or *SQL Server* authentication. It is strongly recommended to avoid using SQL Server authentication with "sa" as the login.

Windows Authentication
SQL Angel identifies a user by his domain name and password which are defined automatically according to his Windows domain user account.
Defined authorization parameters will be used by installable service to connect to the SQL Server instance on the server. Afterwards they can be edited using the Service Properties dialog.

SQL Server authentication
SQL Angel identifies user by his server login and password. Login and password management is accomplished by Login Manager.

If *Server authentication* is selected as the *authentication type*, you should provide

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authorization settings: **User** and **Password**. Analyzing them a system determines information and therefore object access permissions.

<< Previous step Next step >>

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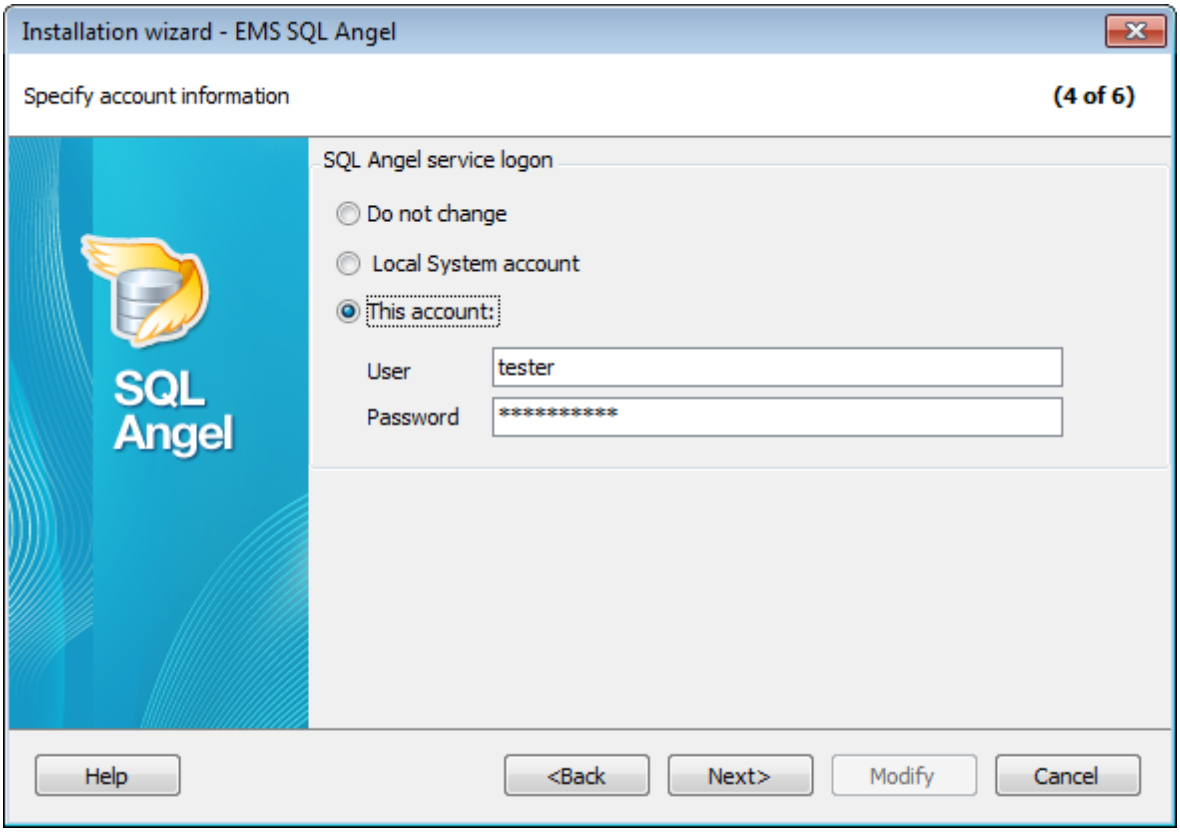
3.5.4 Specifying account information

At this step you should define service log-on information.



Do not change
Use the option to keep previously specified account unchanged.

Local System account
Select this option to use the local system account.

This account
This option allows **SQL Angel** to use specified system account to connect to **SQL Server** . It can be useful when local system account provides insufficient permissions to perform the operation.

[<< Previous step](#) [Next step >>](#)

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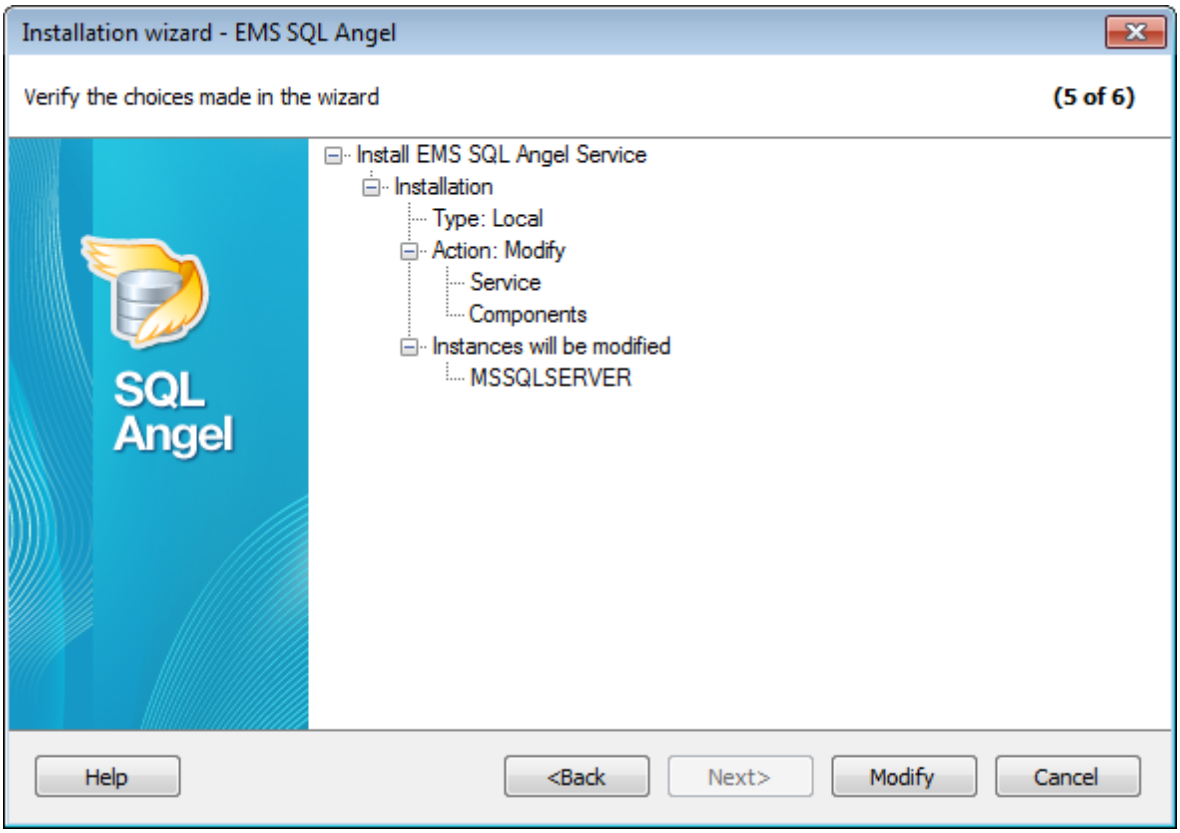
3.5.5 Verifying the choices

This step of the wizard is intended to inform you that all necessary options have been set, and you can start the installation or updating process.



You can **Verify the choices made in wizard** in the corresponding area and click the **Install/Modify/Remove** button to complete the operation.

[<< Previous step]

[Next step >>]

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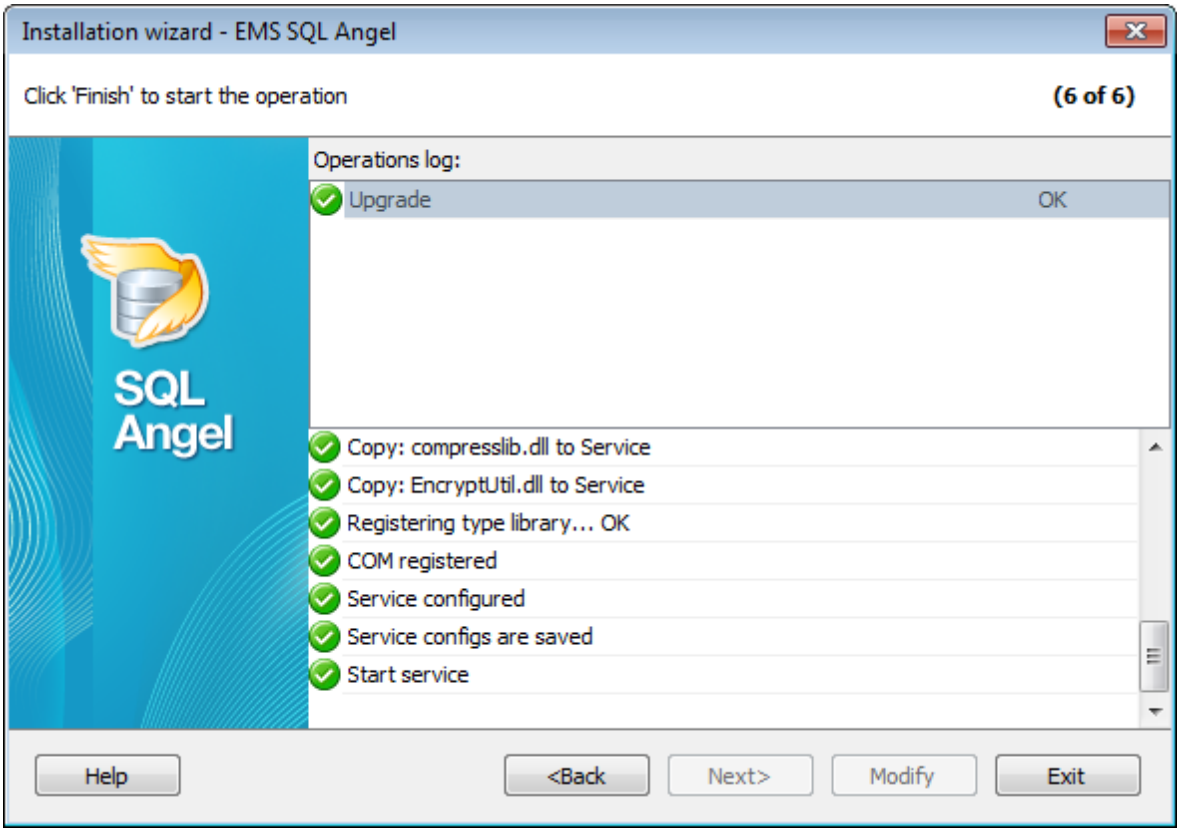
3.5.6 Performing operation

This step of the wizard is intended to inform you that all necessary options have been set, and you can start the process.



<< Previous step

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3.6 Server properties

Server properties window displays settings that have been defined on server registration . To open it use **Server properties** context menu item in Server Explorer. Use this dialog to view and edit the registration properties of the server.

Server connection info
Server options

See also:
Register Server Wizard
Install Server Components
Update/Remove Server-side SQL Angel Components
Service properties

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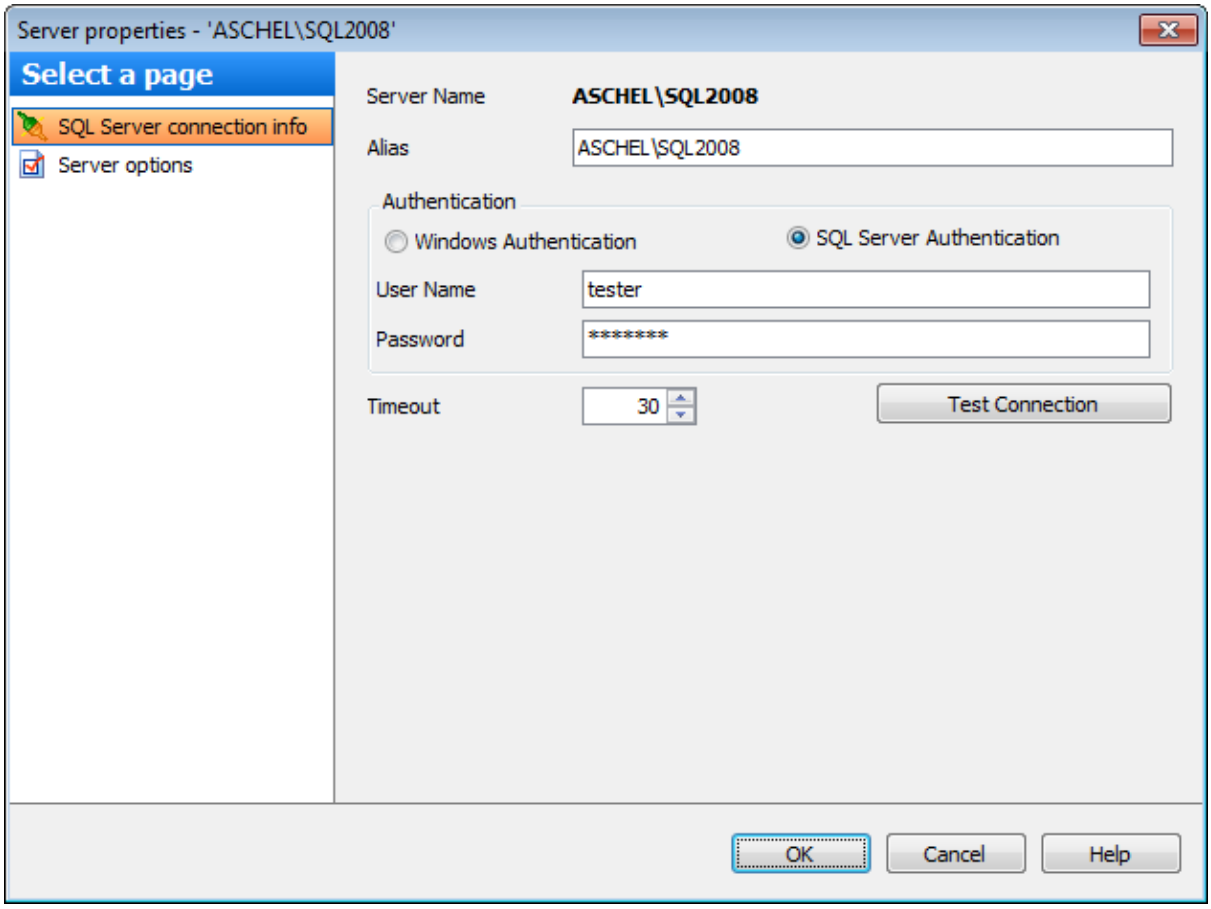
3.6.1 Server connection info

This dialog allows you to view and edit connection properties in the corresponding boxes.



Server Name
Displays SQL Server instance name.

Alias
Stores the server alias which is displayed in the DB Explorer tree and program tools. It is set on server registration in the program.

Authentication
Specify the type of authentication to be used for the connection: *Windows authentication* or *SQL Server* authentication.

SQL Server authentication requires *authorization* information: **User Name** and **Password**.

Timeout
Use this option to restrict time (in seconds) for **SQL Angel** to connect to server.

Test connection
You can test specified connection settings by pressing this button.

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Server options

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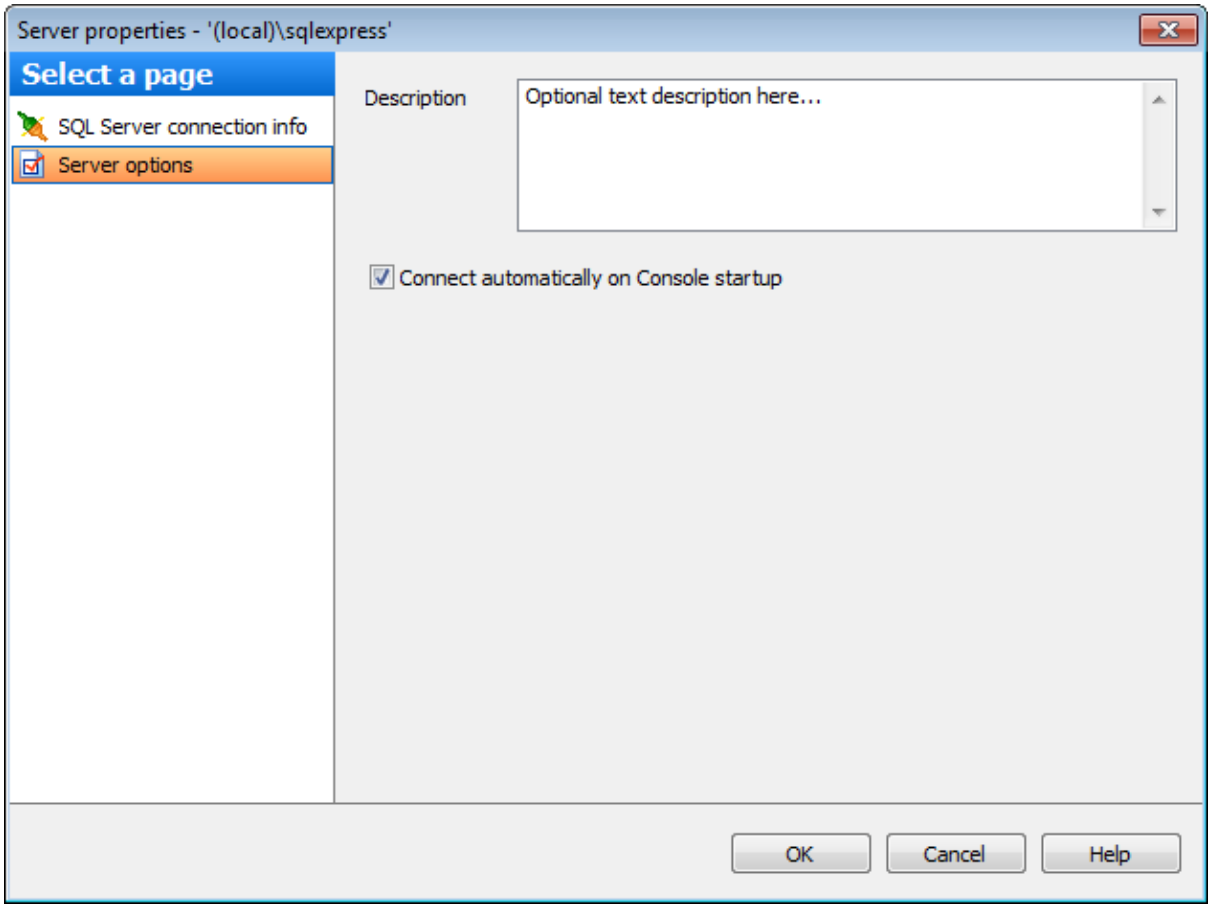
3.6.2 Server options

The **Server options** section allows you to set additional options for the database.



Description field is used for comment on the server.

Connect automatically on Console startup
This option defines whether connection to the registered server should be performed on startup.

Server connection info

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3.7 Service properties

Service properties window displays settings that have been defined on service installation and email settings for correct sending of policy notifications. To open it use server's **Service properties** context menu item.

SQL Server connection info
Email settings
Log storage settings
Backup settings

See also:
Register Server Wizard
Install Server Components
Update/Remove Server-side SQL Angel Components
Server properties

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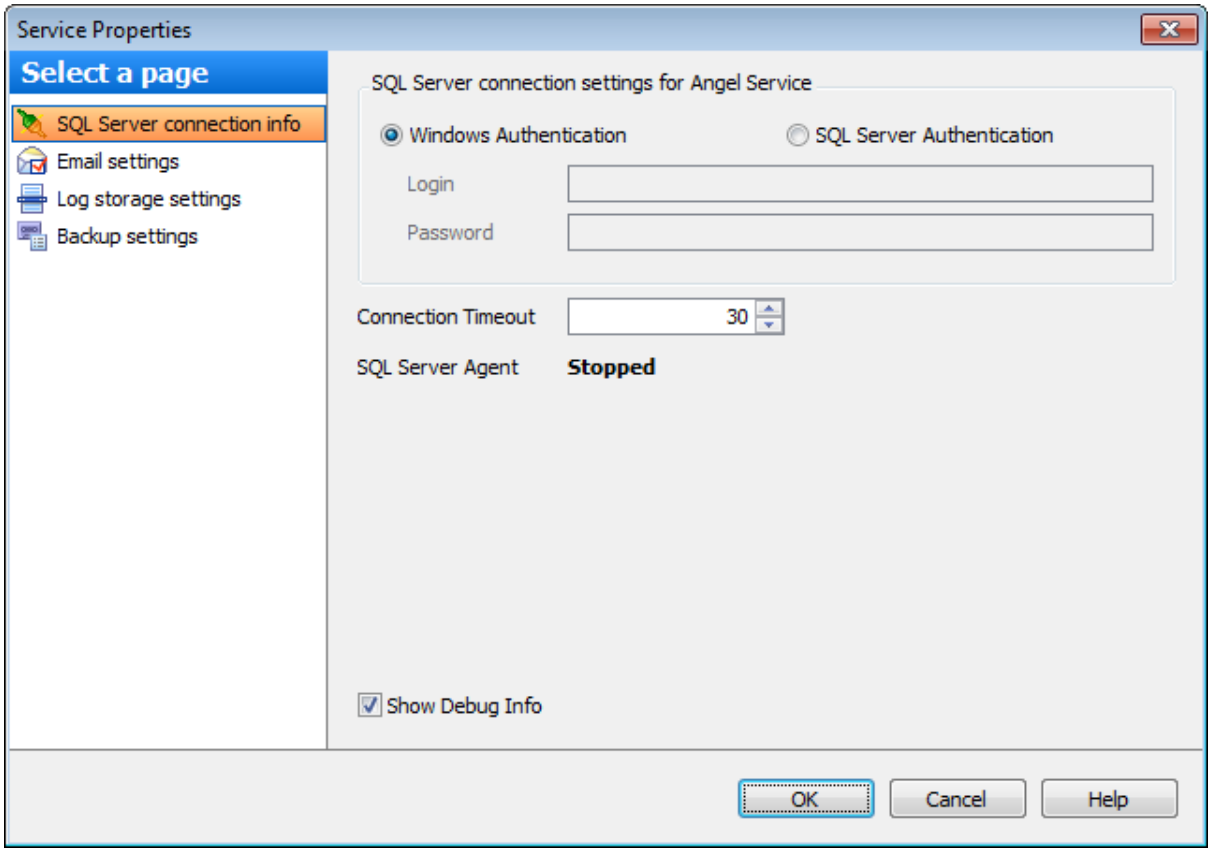
3.7.1 SQL Server connection info

At the **SQL Server connection info** tab you can view\change authentication to be used for user authorization on the server. The settings you provide will be used by the service installed on the server.
Unlike the Server Properties dialog this one is used to set *SQL Server* authentication parameters for an account that will be used for connection by a service installed on a server.



Specify the type of Microsoft® SQL Server™ authentication to be used for the connection: *Windows* authentication or *SQL Server* authentication.

SQL Server authentication requires authorization information: **Login** and **Password**.

Connection Timeout
Use this option to restrict time (in seconds) for **SQL Angel** to connect to server.

SQL Server Agent info shows the current state of the agent on the selected instance.

Show Debug Info
Check this option to display debug information in server logs.

Email settings

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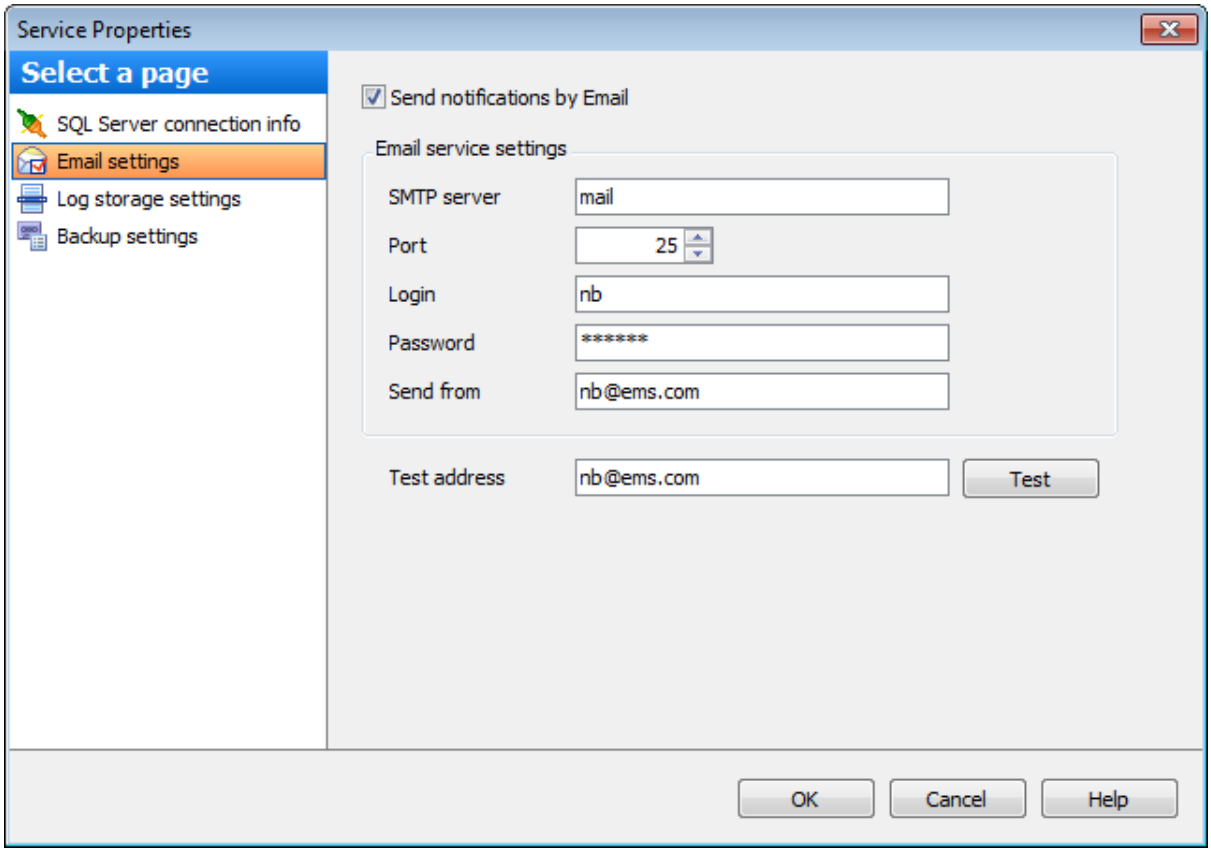
3.7.2 Email settings

At this tab you can set email setting that are used for sending policies notifications by email. If the following settings are not set email notifications cannot be sent.



Send notifications by Email
Check this option to enable email sending for the service.

Email service settings

SMTP server
Type the name of SMTP server to be used for sending emails.

Port
Specify SMTP port for the mail agent.

Login
Input the login for access to the mail agent.

Password
Input the password for access to the mail agent.

Send from
Specify the email address that will be displayed as a Sender address in the notification email.

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Test address
Click the button to send a test email to the recipient to ensure your settings have been correct correctly.

SQL Server connection info

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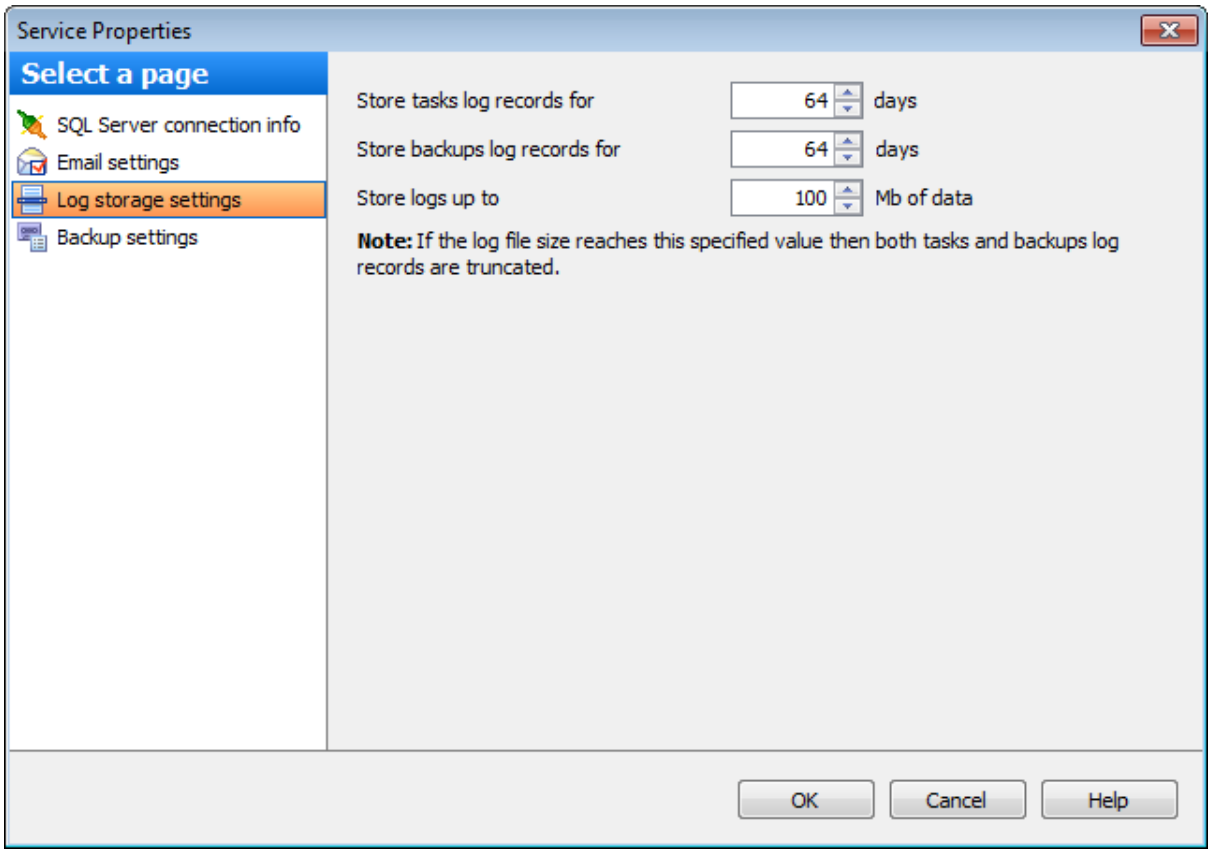
3.7.3 Log storage settings

At this tab you need to configure settings of SQL Angel log storage for the server. Log file stores information about user tasks and policies launches.
Depending on the configured values you will receive warning notification message that 'Log size is exceeded' appearing on server refresh. Also this message will be displaying in the server overview information until you perform history cleanup operation.



Store tasks log records
Set the period of time (in days) within witch records about tasks launches should be stored in log file. All records that are older this specified value will be removed automatically.

Store backups log records
Set the period of time (in days) within witch records about backups should be stored in log file. All records that are older this specified value will be removed automatically.

Store logs up to
Set the preferable maximum size (in Mb) of a log file.
Note: This value is limited to 3328 megabytes of data.

Note: If the log file size reaches this specified value then both tasks and backups log records are truncated.

Log file truncation is not performed simultaneously on reaching specified boundary values.

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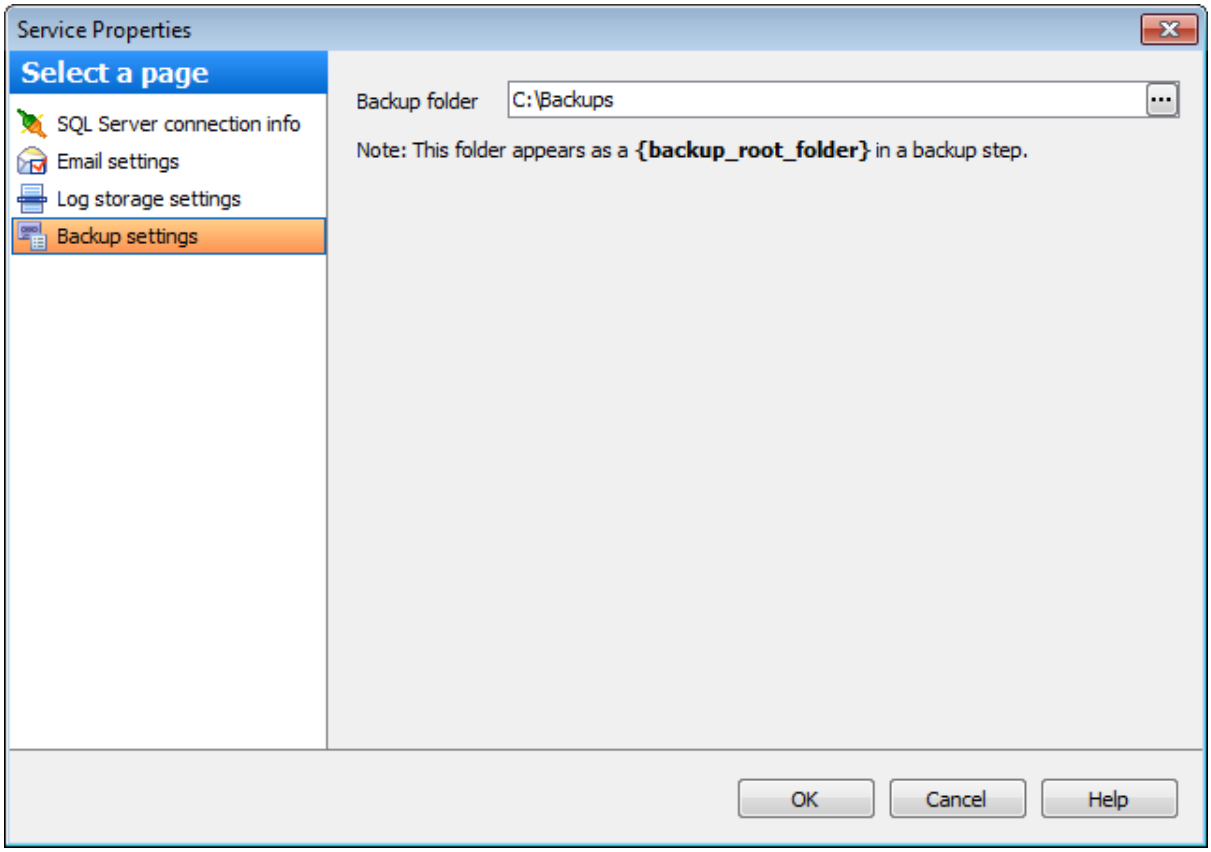
3.7.4 Backup settings

At the **Backup settings** tab you need to set folder which will be used as a default folder for storing backup files.



Backup folder

Define the folder for storing backups created by Backup Database wizard. Click the ... button to open the Server folder dialog to pick up the needed server folder.

Note: This folder is tagged as a *{backup_root_folder}* in a backup step.

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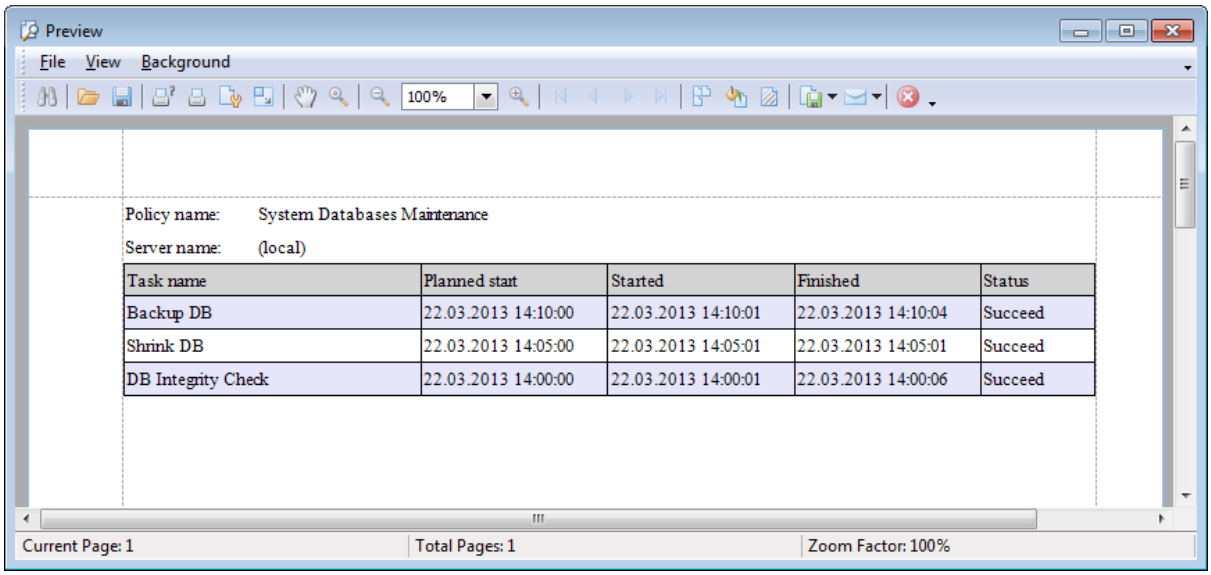
3.8 Reports

Using reports you can view and save information to any available format about task execution that is displayed in the grid of a Launches area.

To open a report on a policy/task execution the **Preview** window use the **Report** button on the Launches area toolbar or select the **Show Report** popup menu item.

There are three types of reports:

- **Single-server report**


Preview
File View Background
100%
Policy name: System Databases Maintenance
Server name: (local)
Task name | Planned start | Started | Finished | Status
Backup DB | 22.03.2013 14:10:00 | 22.03.2013 14:10:01 | 22.03.2013 14:10:04 | Succeed
Shrink DB | 22.03.2013 14:05:00 | 22.03.2013 14:05:01 | 22.03.2013 14:05:01 | Succeed
DB Integrity Check | 22.03.2013 14:00:00 | 22.03.2013 14:00:01 | 22.03.2013 14:00:06 | Succeed
Current Page: 1
Total Pages: 1
Zoom Factor: 100%

This report can be viewed when a single server is selected in the explorer and a policy deployed on this server is selected in the Policies area. If a policy deployed on several servers is selected in Policies area a report will include information on launches of this policy only on the selected server. The report displays brief information on tasks of the selected policy including *task name*, *planned start*, *time started*, *time finished* and *task status*.

- **Multi-server report**

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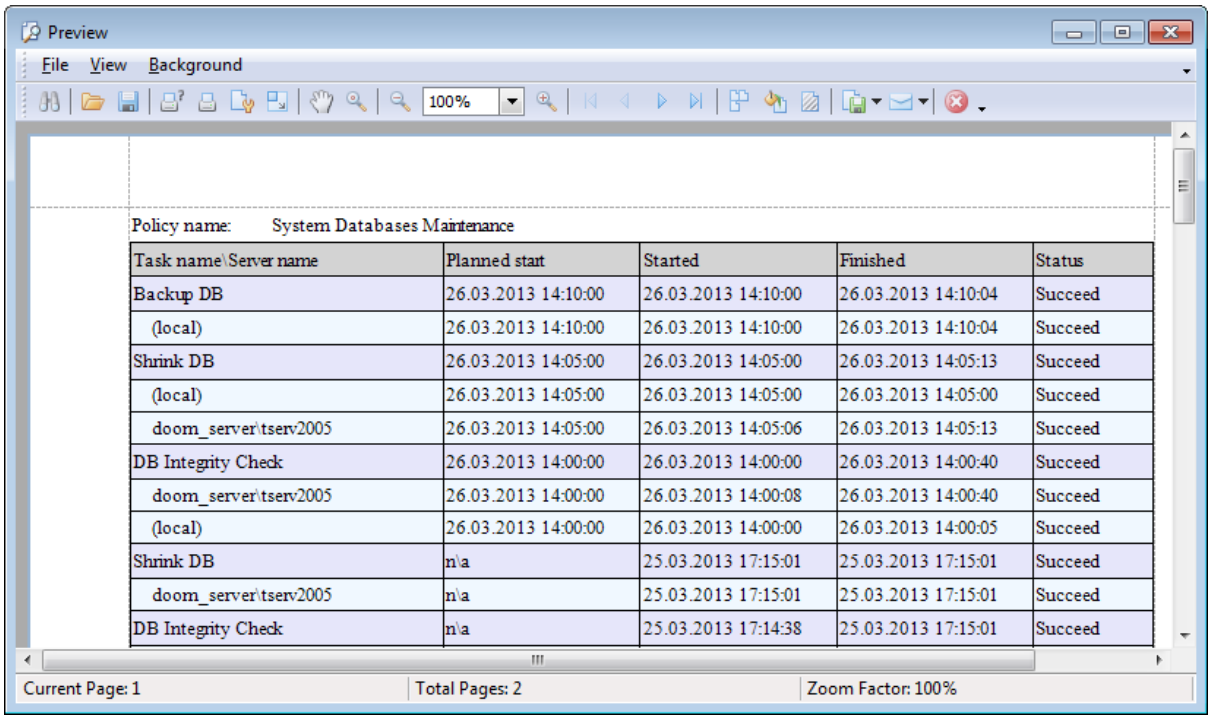
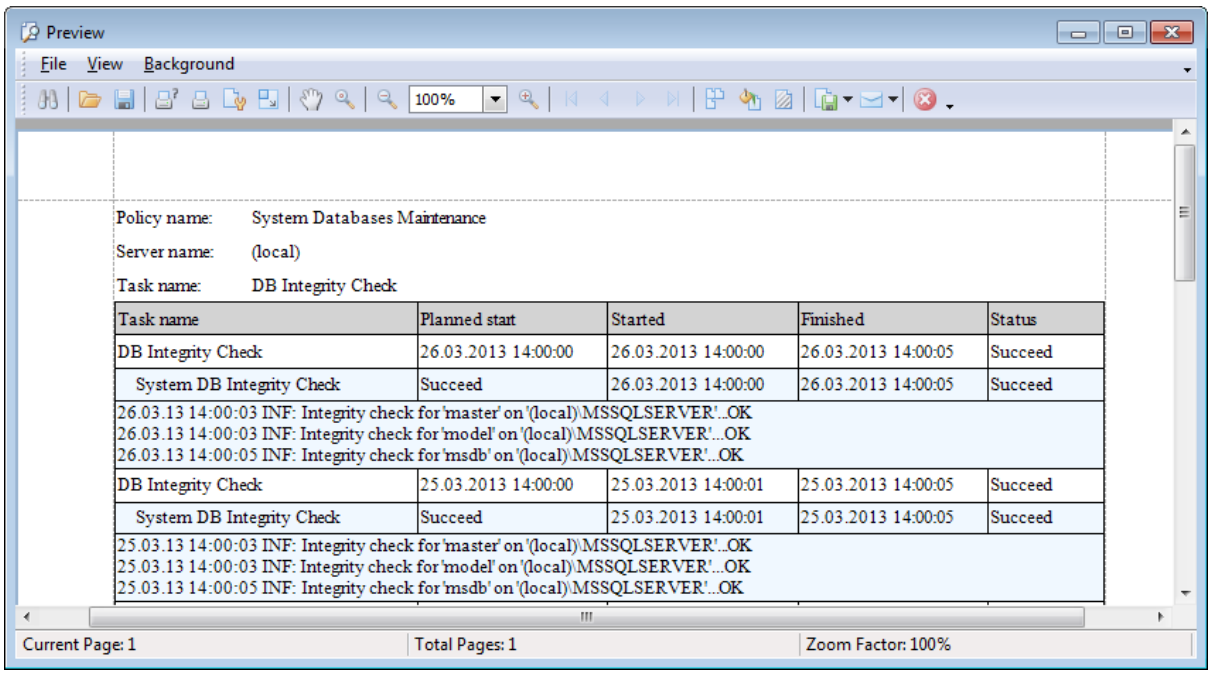


Multi-server report is available when a policy deployed on multiple servers is selected in the Policies area. Besides, a group or a solution must be selected in the Servers area. The report displays brief information on tasks of the selected policy including *task name*, *server name*, *planned start*, *time started*, *time finished* and *task status*.

- **Detailed task report**


Preview
File View Background
100%
Policy name: System Databases Maintenance
Server name: (local)
Task name: DB Integrity Check
Task name | Planned start | Started | Finished | Status
DB Integrity Check | 26.03.2013 14:00:00 | 26.03.2013 14:00:00 | 26.03.2013 14:00:05 | Succeed
System DB Integrity Check | Succeed | 26.03.2013 14:00:00 | 26.03.2013 14:00:05 | Succeed
26.03.13 14:00:03 INF: Integrity check for 'master' on '(local)\MSSQLSERVER'...OK
26.03.13 14:00:03 INF: Integrity check for 'model' on '(local)\MSSQLSERVER'...OK
26.03.13 14:00:05 INF: Integrity check for 'msdb' on '(local)\MSSQLSERVER'...OK
DB Integrity Check | 25.03.2013 14:00:00 | 25.03.2013 14:00:01 | 25.03.2013 14:00:05 | Succeed
System DB Integrity Check | Succeed | 25.03.2013 14:00:01 | 25.03.2013 14:00:05 | Succeed
25.03.13 14:00:03 INF: Integrity check for 'master' on '(local)\MSSQLSERVER'...OK
25.03.13 14:00:03 INF: Integrity check for 'model' on '(local)\MSSQLSERVER'...OK
25.03.13 14:00:05 INF: Integrity check for 'msdb' on '(local)\MSSQLSERVER'...OK
Current Page: 1
Total Pages: 1
Zoom Factor: 100%

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Task report is available when a particular task is selected in the Policies area. This report displays a detailed information on a task and its steps of the selected policy including *task name*, *planned start*, *time started*, *time finished*, *task/step status* and *execution message (information, warning or error)*.

The **Preview** window allows you to change the report appearance, i.e. change a document background and add watermarks.

The man menu of the **Preview** window allows you to:
- open page setup dialog;
- start printing the report;
- export the content to any of the available formats: *PDF file*, *HTML file*, *MHT file*, *RTF file*, *Excel file*, *CSV file*, *Text file*, *Image file* and then send it via E-mail;
- close the **Preview** window;
- change page layout: Facing or Continuous;
- enable/disable toolbar;
- enable/disable status bar;
- customize toolbar;
- set report background and watermark.

The toolbar of the **Preview** window allows you to:
- search for text within the document;
- open a previously saved report;
- save the current report to an external **.prnx* file;
- start printing the report;
- open page setup dialog;
- set scaling options;
- enable/disable hand tool;
- adjust zoom options;
- navigate within the printing report pages;
- set the number of pages displayed in the window;
- set report background and watermark;
- export the content to any of the available formats: *PDF file*, *HTML file*, *MHT file*, *RTF file*, *Excel file*, *CSV file*, *Text file*, *Image file* and then send it via E-mail;
- close the **Preview** window.

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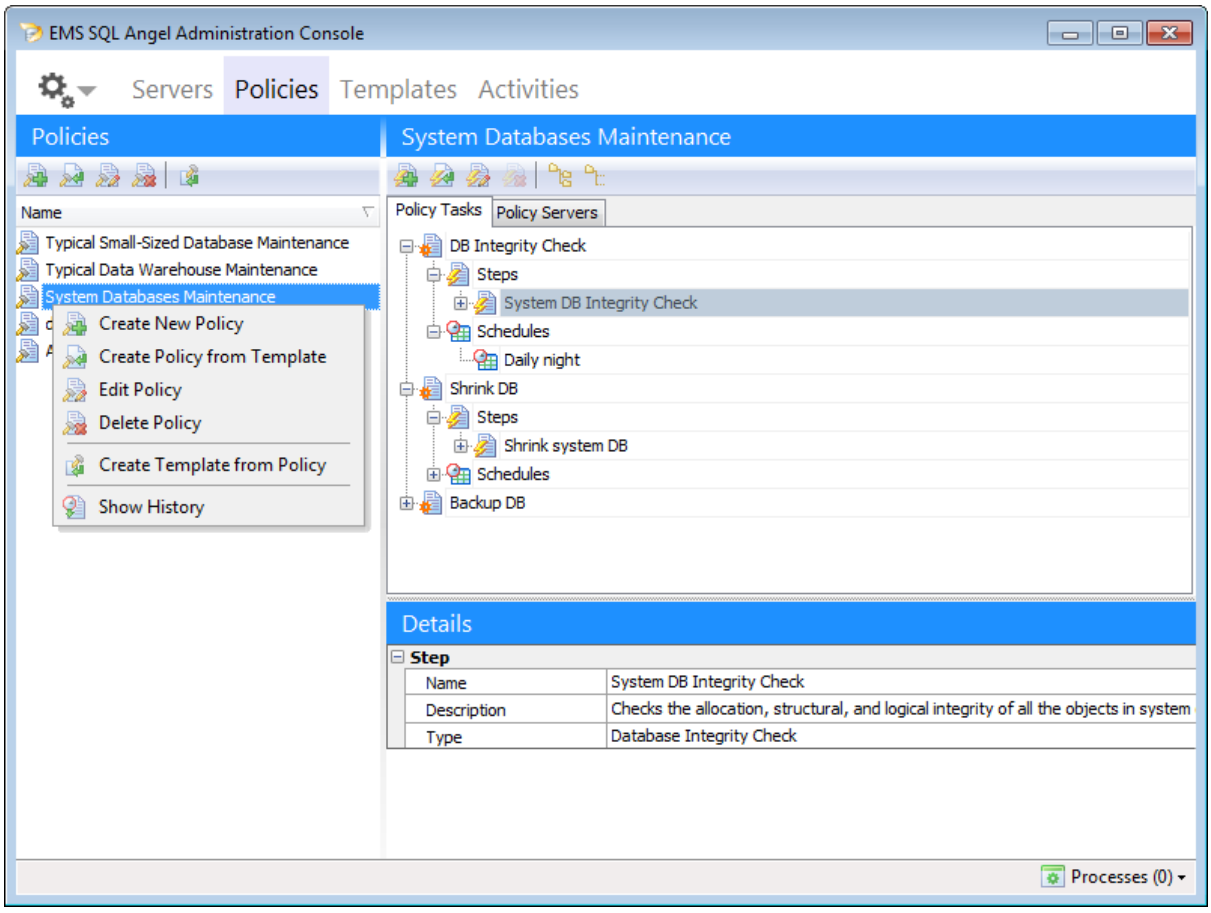
Part

4 Policies

This chapter provides you with necessary information concerning SQL Server maintenance policies.

Policy in SQL Angel is a set of scheduled tasks to be performed on the servers or databases each containing a number of steps. Policy is implemented as a set of jobs in SQL Server and therefore its execution requires consistent work of SQL Agent. You can schedule one or more tasks to be executed according to the preset schedules. The policy can perform operations on a set of databases on different servers. It can be created for a server as well as for a *Group* of servers or *Solution*. To assign it automatically on policy creation you should run Policy wizard using the context menu of the corresponding elements (server, group or solution).

Each Policy execution generates the result status that informs you about successful or failed policy executions. After reviewing the errors you can ignore them or re-execute the task.
To manage policy status and process of execution go to Servers and Activities tabs.



To start working with policy you need to create it at first.

Policies page provides all necessary tools to manage policies. Move to the page and use

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the Create New Policy or **Create Policy from Template** popup menu item.

You can easily create a template from the existing policy using Create Template from Policy menu item. The template based on the selected policy will be automatically added to the Policy Templates list.
Note: The databases selected in the policy can be saved in template as well.

Policies at this tab can be *viewed* in *two modes*: **Policy Tasks** and **Policy Servers**. Select the Policy on the left and switch between two corresponding modes to see policy's tasks or servers on the top-level. For each object of the tree you can see more **Detailed** info at the bottom panel.

See also:
Getting Started
Servers
Templates
Activities
Maintenance Actions
Options

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4.1 Popup menus

Popup menu of the object contains the list of actions that can be applied to the object. The following popup menu is available in the policy list at the **Policies** tab.

Policy popup menu
Task popup menu
Schedule context menu
Server context menu

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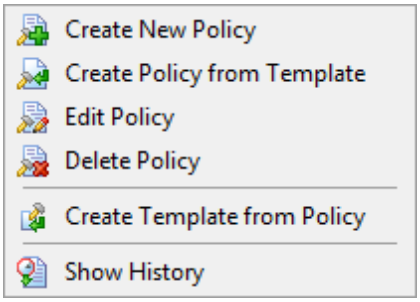
4.1.1 Policy popup menu

The following actions can be applied to the policy:



Create New Policy;
Create Policy from Template - create a policy based on the existing policy template;
Edit policy;
Delete policy;
Create Template from Policy - create a template with the same tasks and settings as the selected one;
Show History - open Policy history viewer.

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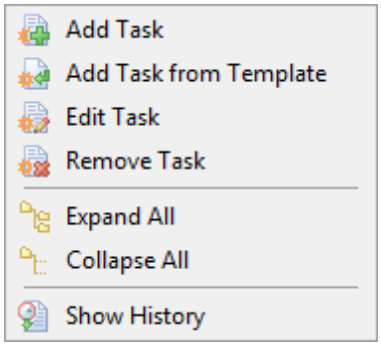
4.1.2 Task popup menu

The following actions can be applied to the task:



Add New Task to the policy;
Add Task from Template - create a task based on the existing task template;
Edit Task using the Task editor;
Remove Task from the policy;
Expand all tasks;
Collapse all tasks;
Show History - open task history in Policy history viewer.

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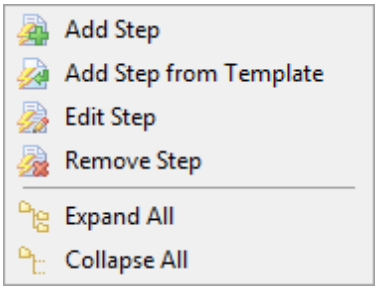
4.1.3 Step context menu

The following actions can be applied to the step:



Add New Step to the task;
Add Step from Template - create a step based on the existing step template;
Edit Step using the Step editor;
Remove Step from the task;
Expand all tasks;
Collapse all tasks.

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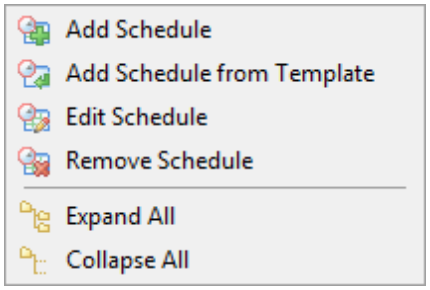
4.1.4 Schedule context menu

The following actions can be applied to the schedule:



Add New Schedule to the task;
Add Schedule from Template - create a schedule based on the existing step template;
Edit Schedule using the Step editor;
Remove Schedule from the task;
Expand all tasks;
Collapse all tasks.

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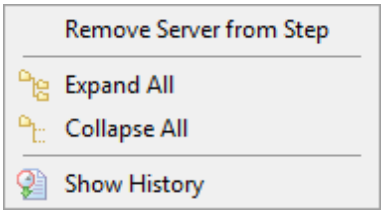
4.1.5 Server context menu

The following actions can be applied to the server on which the policy is deployed:



Remove server from Step;
Expand all tasks;
Collapse all tasks;
Show History - open Policy history viewer.

Note: The single server cannot be removed from the step. Instead, you can remove the whole step.

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4.2 Policy wizard

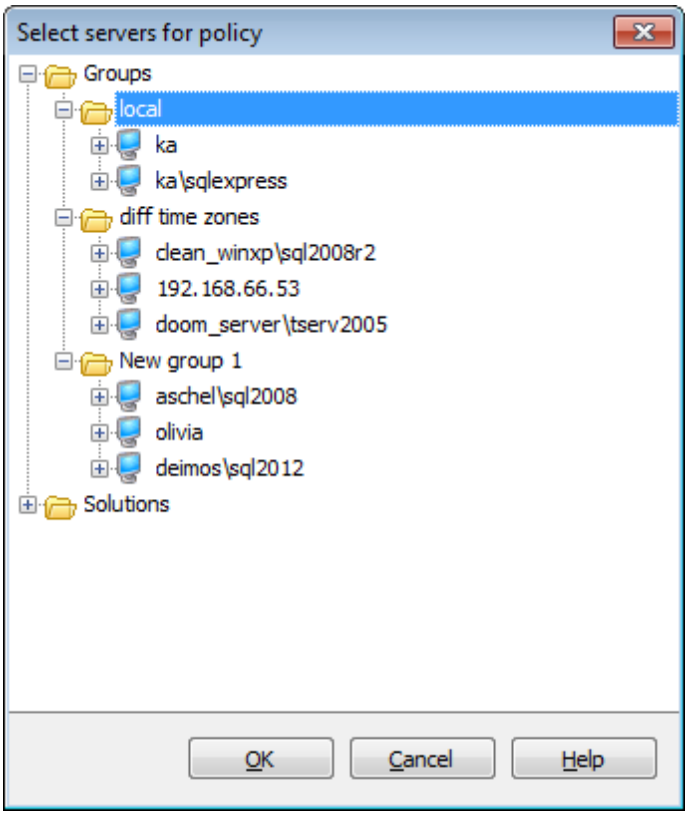
This chapter explains how to create a new policy in SQL Angel.

There is a special wizard that guides you through the policy creation process. You can launch this wizard in one of the following ways:

At the Policies tab:
Use the **Create New Policy** or **Create Policy from Template** popup menu item.

At the Servers tab:
Right-click database/server/server group and use the **Maintenance Policies | Create new policy** or **Create from templates** item.

If you call the wizard from the **Policies** page you will be asked to pick a server, group or solution which policy will be created for. You can create a policy for all servers within Group or Solution.



Note: Creating a Policy for a database means creating policy for the server on which database is stored. This database will be marked by default in steps that require database selection.

Note: When you create a policy from a template it will be applied to all databases of the server irrespective of the database selected.

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Proceed to the starting step of Policy wizard.

Steps:
Setting policy name and description
Defining set of tasks
Defining notification options
Creating policy

See also:
Policy editor
Maintenance plan conversion
Execute Policy
Resolve problem
Viewing Policy History

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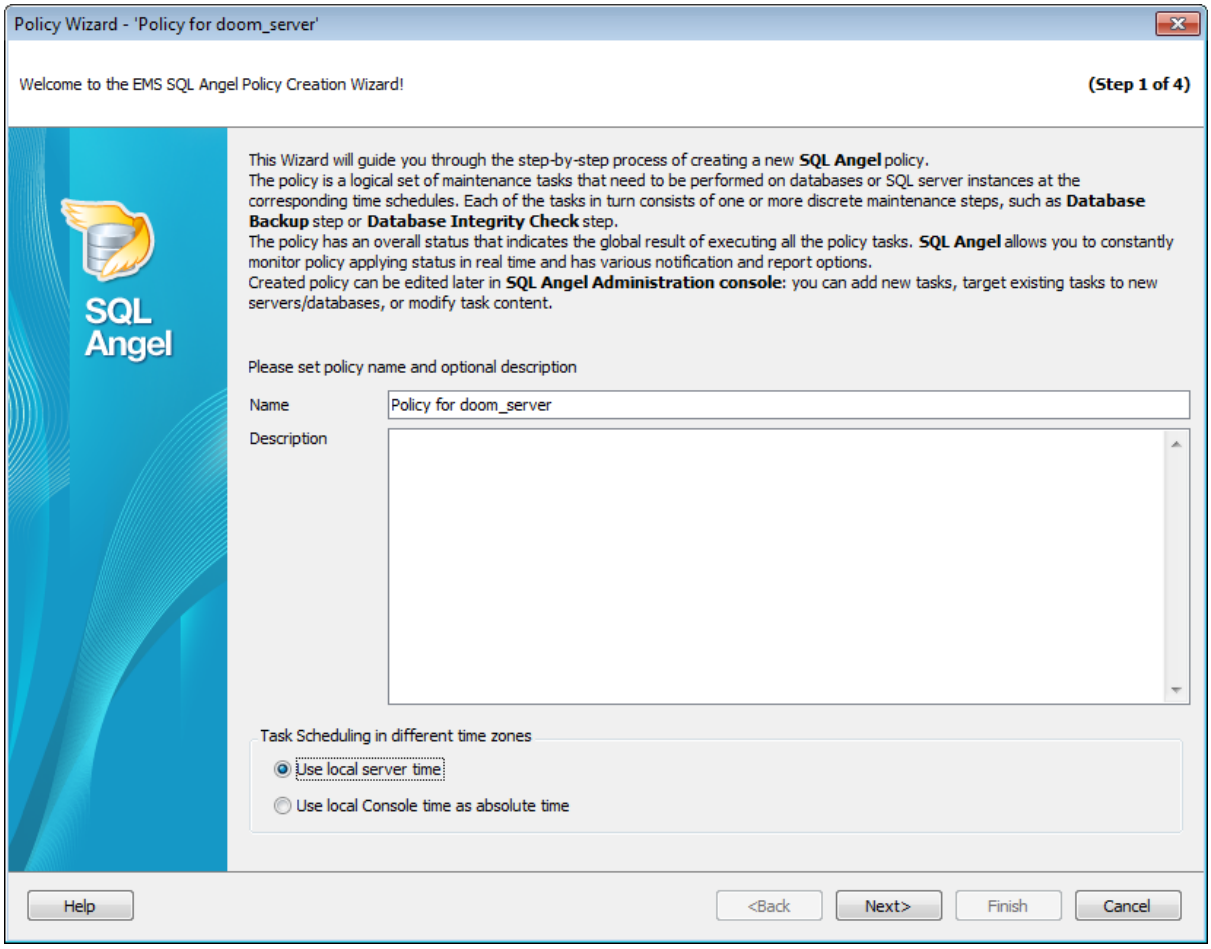
4.2.1 Setting policy name and description

Use the first step of the wizard to set policy name, description and time preference.


Policy Wizard - 'Policy for doom_server'
Welcome to the EMS SQL Angel Policy Creation Wizard!
(Step 1 of 4)
SQL Angel
This Wizard will guide you through the step-by-step process of creating a new SQL Angel policy.
The policy is a logical set of maintenance tasks that need to be performed on databases or SQL server instances at the corresponding time schedules. Each of the tasks in turn consists of one or more discrete maintenance steps, such as Database Backup step or Database Integrity Check step.
The policy has an overall status that indicates the global result of executing all the policy tasks. SQL Angel allows you to constantly monitor policy applying status in real time and has various notification and report options.
Created policy can be edited later in SQL Angel Administration console: you can add new tasks, target existing tasks to new servers/databases, or modify task content.
Please set policy name and optional description
Name
Policy for doom_server
Description
Task Scheduling in different time zones
Use local server time
Use local Console time as absolute time
Help
<Back
Next>
Finish
Cancel

Name
Specify policy name in this field.

Description
Define brief info for the created policy.

Task Scheduling in different time zones
These options specify what time zone is used for policy task launch if its servers are located in different time zones. If tasks are to start at specific server time (for example, when server is idle) we recommend to select local server time, otherwise select local console time.

Use local server time
Use this option to launch policy tasks according to the local time on each server.

Use local Console time as absolute time
Use this option to launch policy tasks at the time corresponding to the local console time. It allows easy control over policy status. It is recommended to use this option to

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synchronize the operations for the 'Transaction Log Shipping' task.

Next step >>

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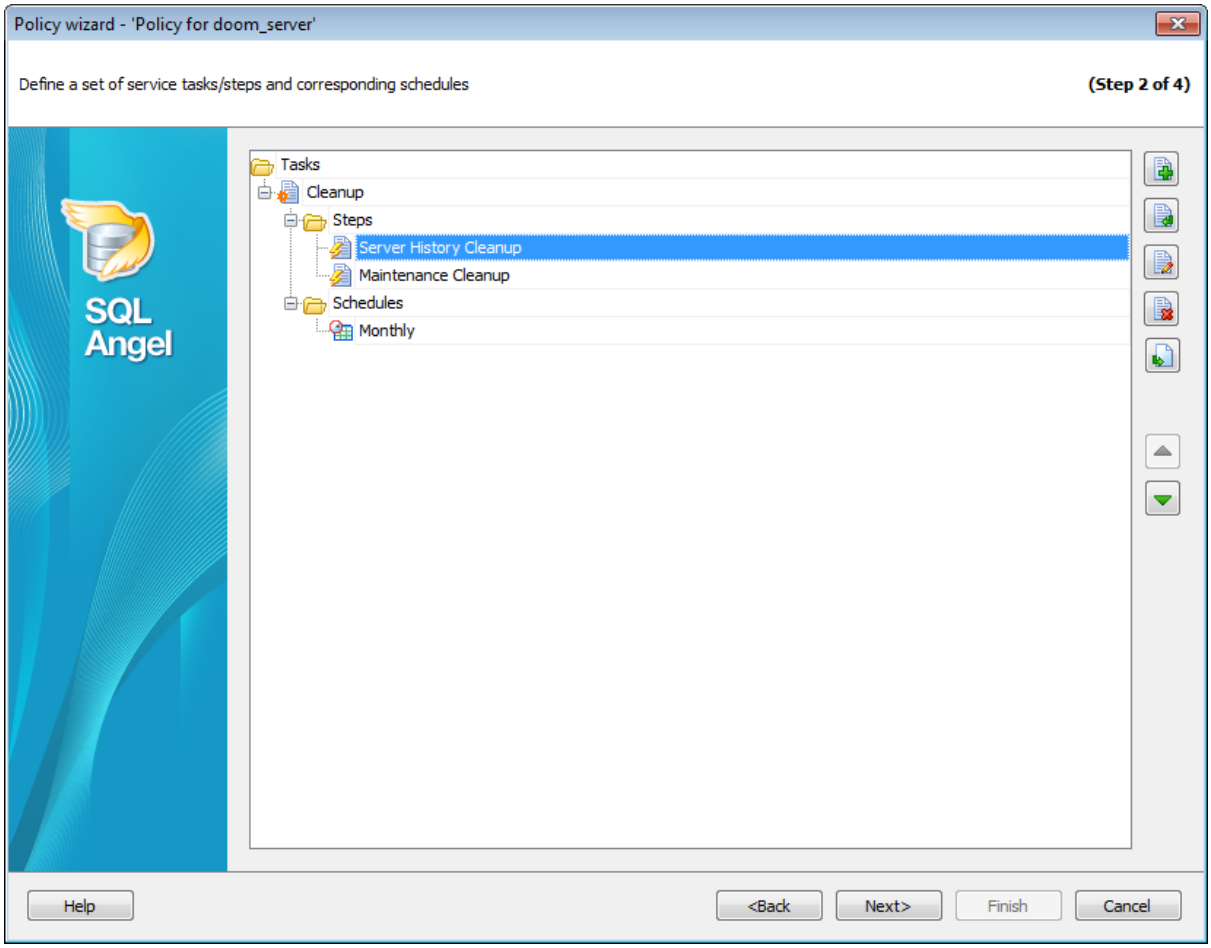
4.2.2 Defining set of tasks

At this step you need to define tasks for the policy being created.
Policy is a set of schedule(s) and tasks each containing at least one step.



Create New
Use this button, *Ins* key or the **Add** button in the task\step\schedule header to create a new object.

Create New from Template
If you create a task\step\schedule from a template you need to pick a template for this object in the opened dialog.

Edit
You can use this button or click the **Edit** button in the object header to edit the object.

Delete
Click this button or the **Delete** button in the object header to remove it from the list.

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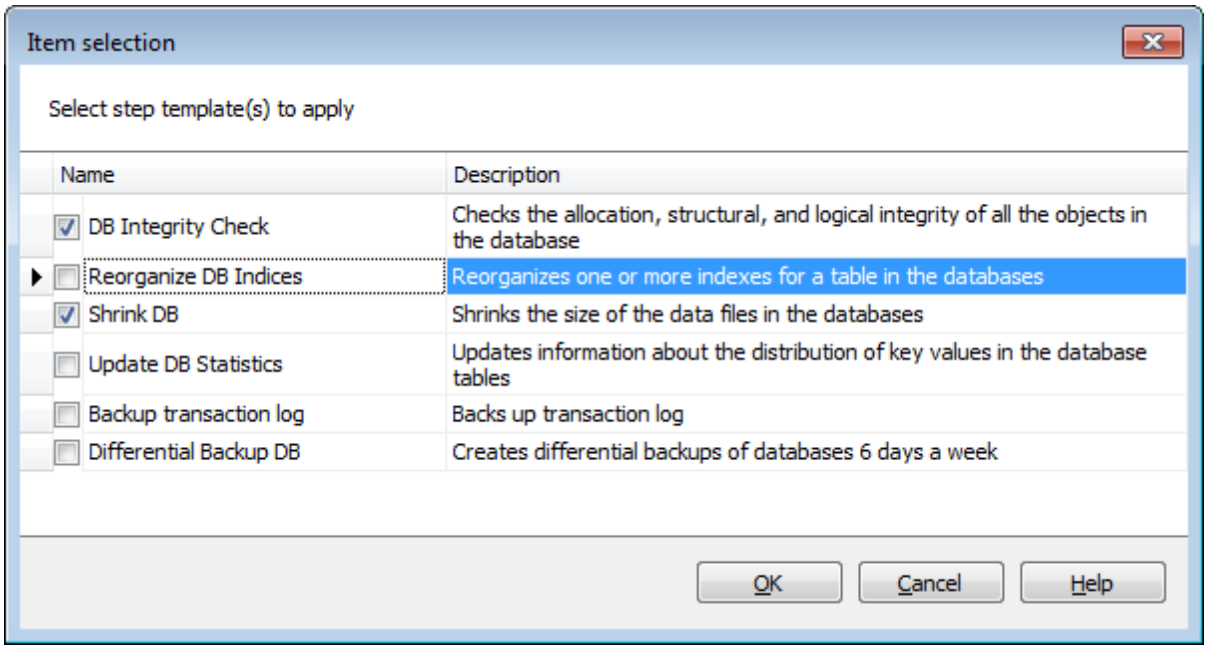
The *Delete* key can be used as well.

Copy to Templates
Press this button to create a template with the same options as the selected object.

Use and buttons to reorder Tasks, Steps and Schedules. The order of objects is important for Steps, they are executed in the set order starting from the top.

Note: Backup and restore processes of databases situated on the same instance cannot be executed simultaneously.

When you create a new object from the template the following Templates list dialog is opened. You need to check the items you need to add and click the OK button. If you check several items the corresponding number of policies will be created.


Item selection
Select step template(s) to apply
Name
Description
DB Integrity Check
Checks the allocation, structural, and logical integrity of all the objects in the database
Reorganize DB Indices
Reorganizes one or more indexes for a table in the databases
Shrink DB
Shrinks the size of the data files in the databases
Update DB Statistics
Updates information about the distribution of key values in the database tables
Backup transaction log
Backs up transaction log
Differential Backup DB
Creates differential backups of databases 6 days a week
OK
Cancel
Help

<< Previous step Next step >>

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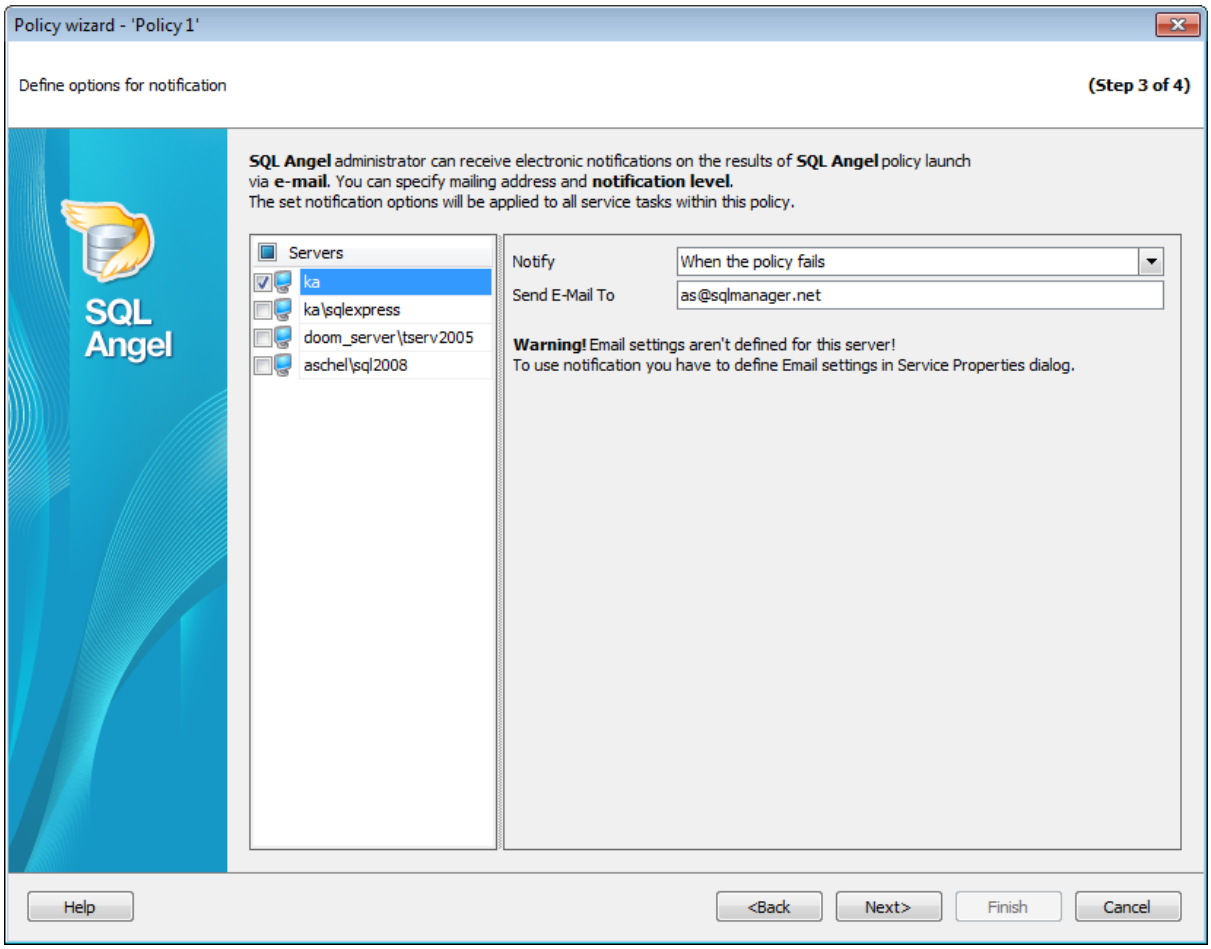
4.2.3 Defining notification options

SQL Angel administrator can receive electronic notifications on the results of SQL Angel policy launch via e-mail.

At this step you can set notifications for the policy.


Policy wizard - 'Policy 1'
Define options for notification
(Step 3 of 4)
SQL Angel
SQL Angel administrator can receive electronic notifications on the results of SQL Angel policy launch via e-mail. You can specify mailing address and notification level.
The set notification options will be applied to all service tasks within this policy.
Servers
ka
ka\sqlexpress
doom_server\tserv2005
aschel\sql2008
Notify
When the policy fails
Send E-Mail To
as@sqlmanager.net
Warning! Email settings aren't defined for this server!
To use notification you have to define Email settings in Service Properties dialog.
Help
<Back
Next>
Finish
Cancel

Check the necessary servers in the **Servers** list to send notifications about policy launch results.

In the **Notify** field specify the trigger action:
When the policy succeeds - send the message when policy tasks have been successfully completed.
When the policy fails - send the message when policy has failed.
When the policy completes - send the message when policy has been launched.

Input the recipient email address in the **Send E-mail To** field. You can define several e-mail addresses separating them with commas.

SQL Server Agent must be configured to use Database Mail.

Note: Email agent options should be set for the service at Service properties.

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<< Previous step

Next step >>

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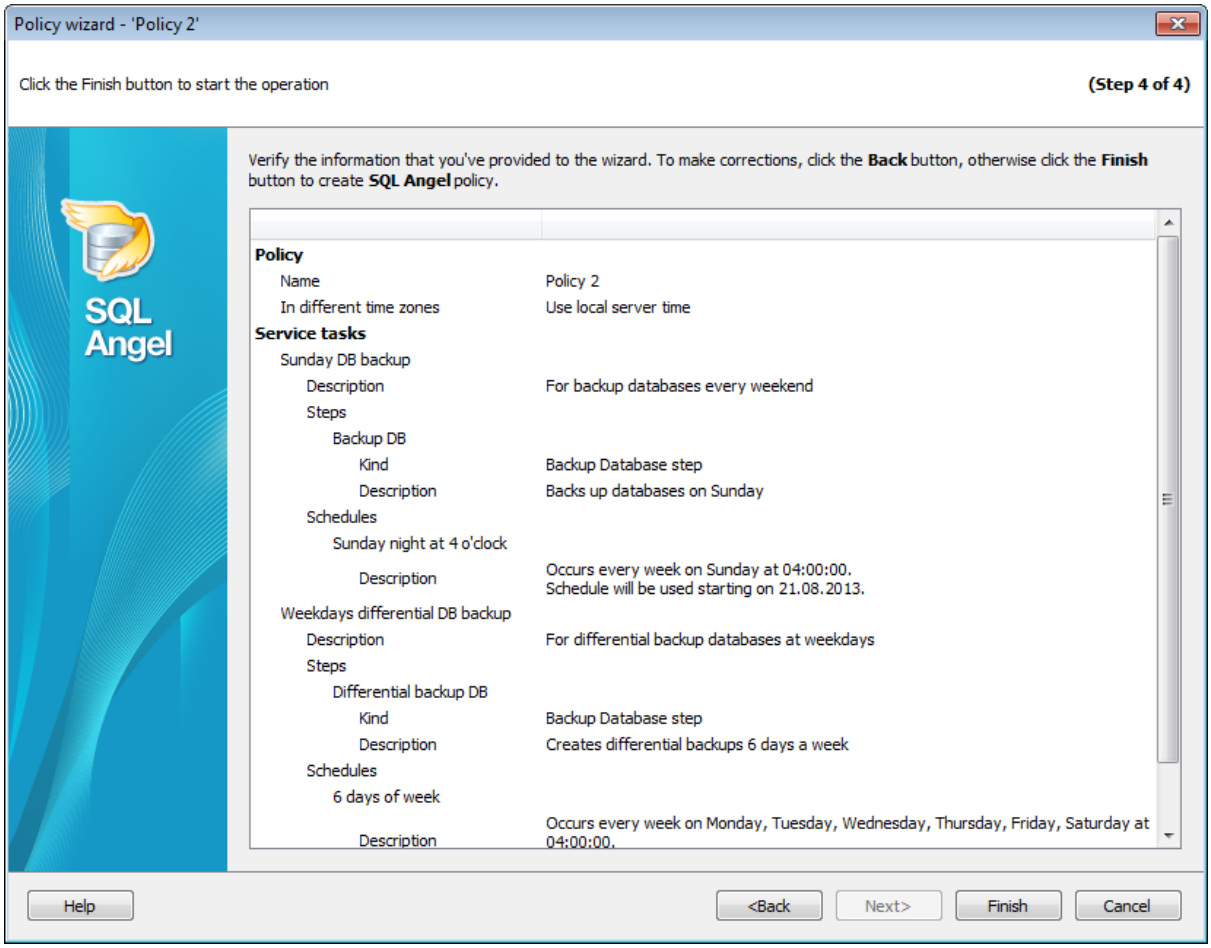
4.2.4 Creating policy

At this step of the wizard you can see the summary of all options set at the previous steps.



You can **Verify the choices made in the wizard** in the corresponding area and click the **Finish** button to create the policy.

[<< Previous step]

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4.3 Policy editor

The policy is the logical set of maintenance tasks that need to be performed on a database or SQL server instances at the corresponding time schedules. Each task in turn consists of one or more discrete maintenance actions.

To *edit* the policy you need to double click the policy at the Policies tab or select the **Edit Policy** item on the toolbar of the Policies tab or from the popup menu.

Editor tabs:
Name and description
General
Notification

See also:
Policy wizard
Maintenance plan conversion
Execute Policy
Resolve problem
Viewing Policy History

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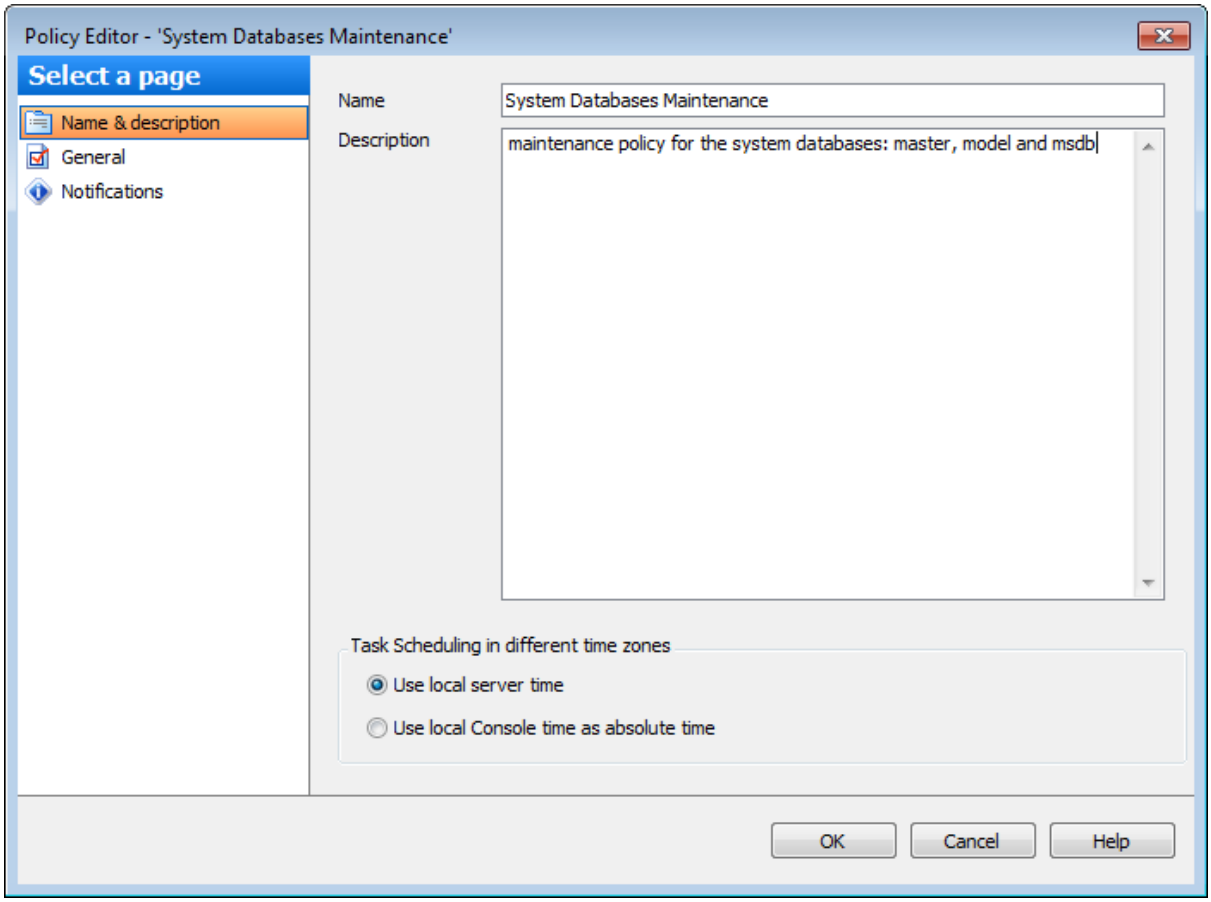
4.3.1 Name and description

At this section you can view and edit policy name, description and time preference.



Name
Edit policy name in this field.

Description
Edit brief info for the created policy.

Task Scheduling in different time zones
These options specify what time zone is used for policy task launch if its servers are located in different time zones. If tasks are to start at specific server time (for example, when server is idle) we recommend to select local server time, otherwise select local console time.

Use local server time
Use this option to launch policy tasks according to the local time on each server.

Use local Console time as absolute time
Use this option to launch policy tasks at the time corresponding to the local console time. It allows easy control over policy status.

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The bottom panel shows errors and warnings for all sections of the policy, if any.

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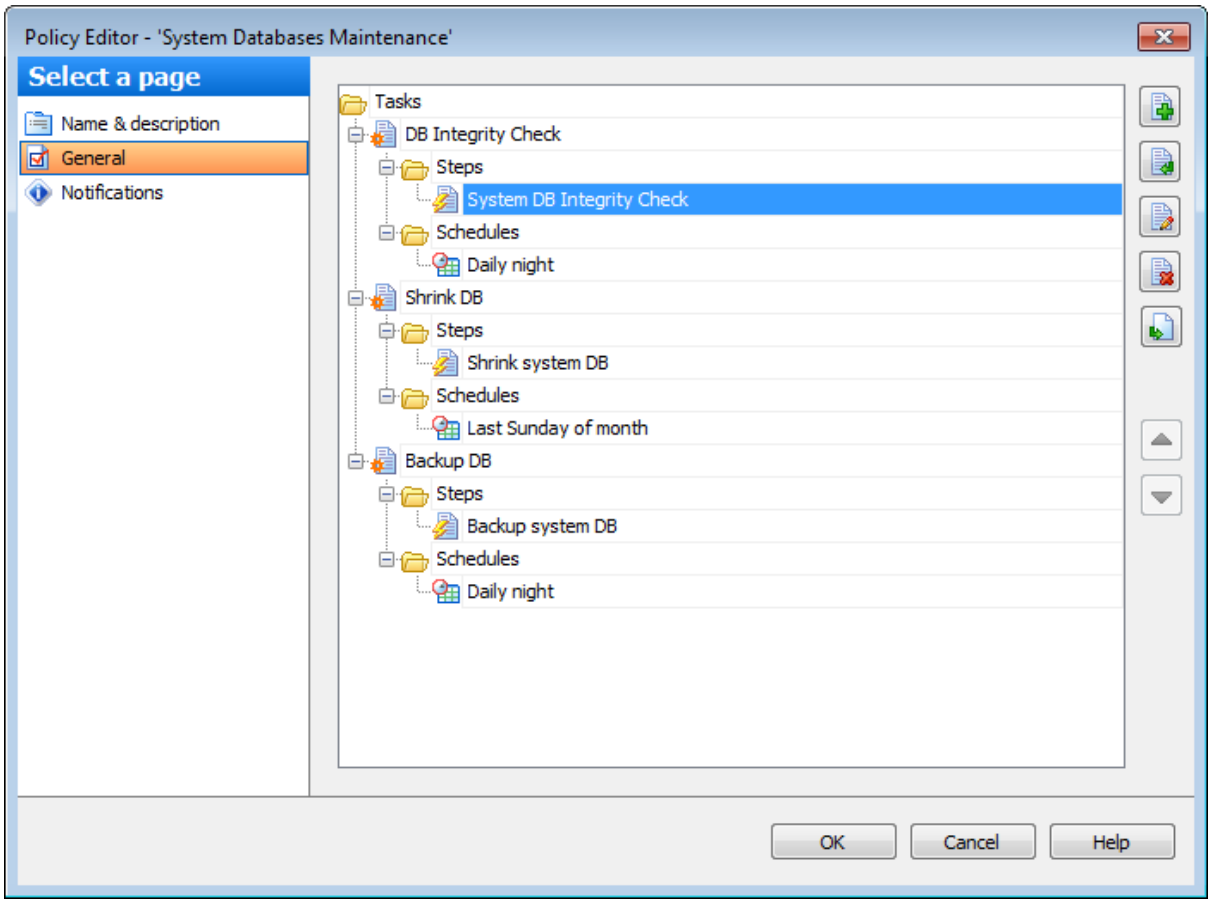
4.3.2 General

The **General** section allows you to view and edit the set of tasks and schedules.

Policy is a set of schedule(s) and tasks each containing at least one step.



You can edit objects using the buttons in the header:
Edit task
Delete task (or *Delete* key)
Add task (or *Ins* key)

Also you can manage the objects (Steps, Tasks and Schedules) using the buttons on the right or from the popup menu.

Create new. Select the required object in the list and click this button to create a new object.

Creating new from template. Click this button to see the list of templates for this object and create a new one based on the template.

Edit. Click this button to change object settings.

Delete. Click this button to remove the object from the policy.

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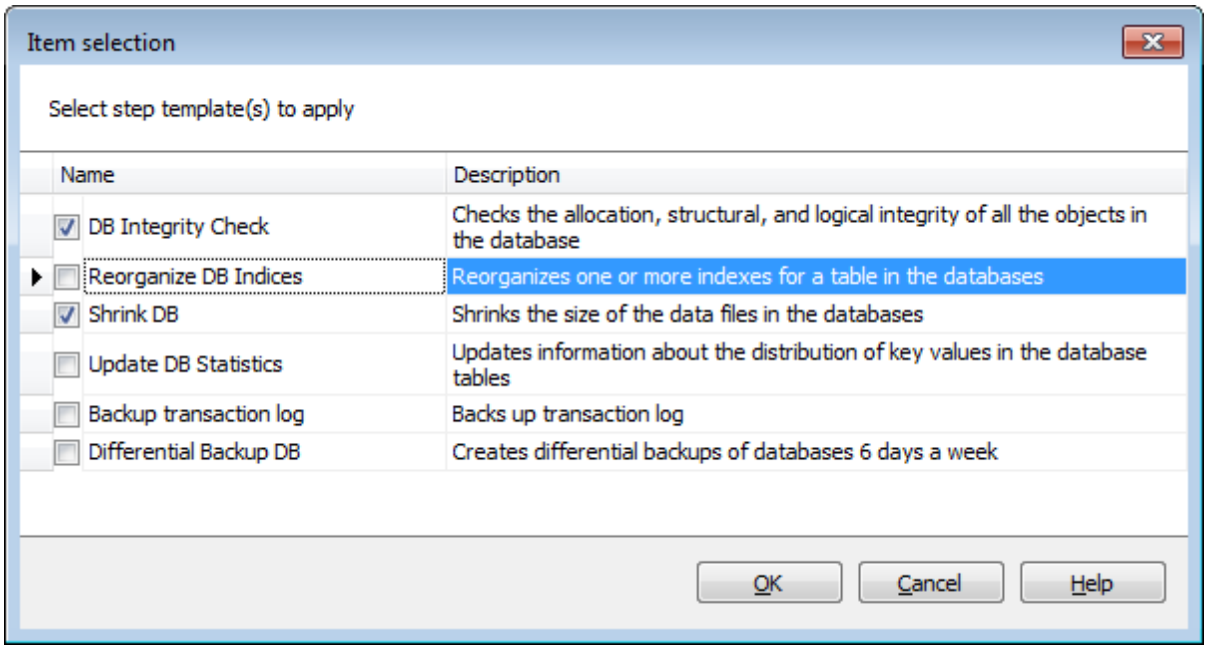
Copy to templates. Select the required object in the list and click this button to add it to templates.

Use and buttons to reorder Tasks, Steps and Schedules.

When you create a new object from the template the following Templates list dialog is open. You need to check the item(s) you need to add and click the OK button.


Item selection
Select step template(s) to apply
Name
Description
DB Integrity Check
Checks the allocation, structural, and logical integrity of all the objects in the database
Reorganize DB Indices
Reorganizes one or more indexes for a table in the databases
Shrink DB
Shrinks the size of the data files in the databases
Update DB Statistics
Updates information about the distribution of key values in the database tables
Backup transaction log
Backs up transaction log
Differential Backup DB
Creates differential backups of databases 6 days a week
OK
Cancel
Help

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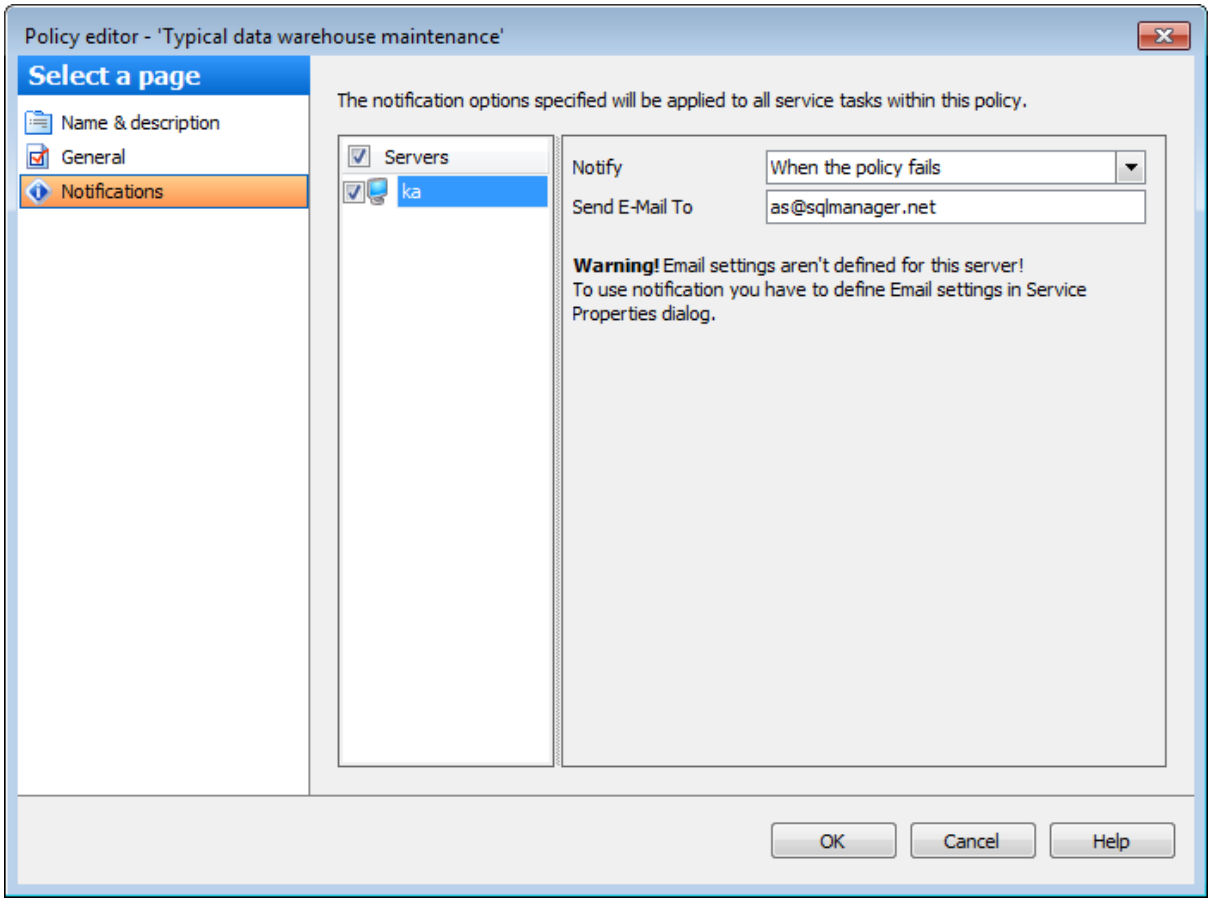
4.3.3 Notification

The **Notifications** section allows you to view and edit notification parameters.



Check the necessary servers in the **Servers** list to send notifications about policy launch results.

In the **Send email** field specify the trigger action:
When the policy succeeds - send the message when policy has been successfully launched.
When the policy fails - send the message when policy launch has failed.
When the policy complete - send the message when policy tasks have been completed.

Input the recipient email address in the **Send to** field.

Note: Email agent options should be set for the service at Service properties.

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4.4 Maintenance plan conversion

This wizard is intended for converting linear *Maintenance Plans* created in SQL Server Management Studio to *Policies* of SQL Angel.

NB: You need to have *SQL Server Integration Services* installed on the server to perform this conversion.
Note: We recommend to disable Maintenance Plans in SQL Server Management Studio after conversion to avoid adverse effects.

To start conversion select the **Maintenance Policies | Convert from Maintenance plan** context menu item for the server at the Servers tab.
Note: If there are no maintenance plans available on the server this context menu item is not displayed.

Steps:
Welcome
Selecting Maintenance plan to convert to policy
Performing conversion
Operation execution

See also:
Policy wizard
Policy editor
Execute policy
Resolve problem
Viewing Policy History

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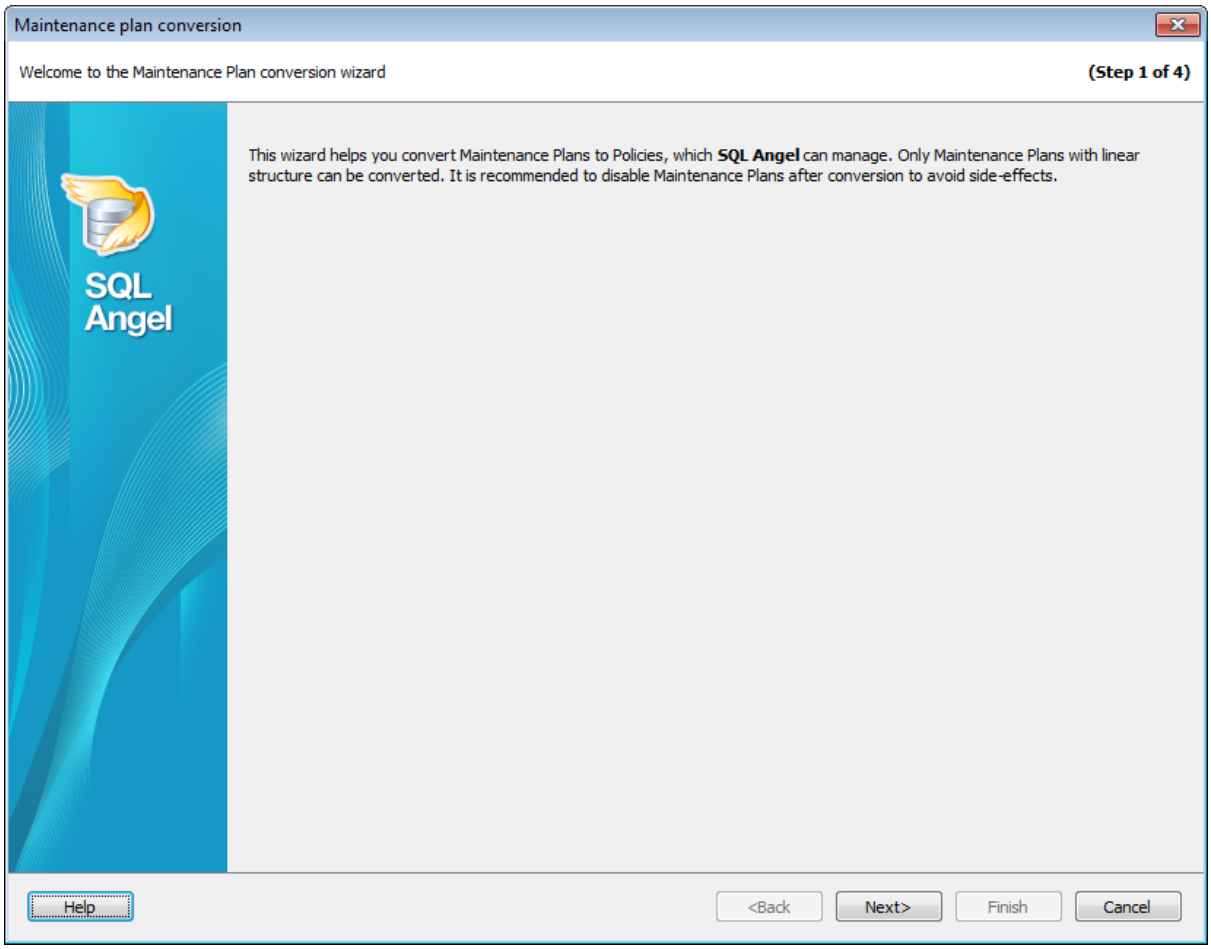
4.4.1 Welcome

This wizard helps you to convert Maintenance Plans created by Management Studio for SQL Server to policies, which SQL Angel can manage. You need to have *SQL Server Integration Services* installed on the server to perform this conversion.


Maintenance plan conversion
Welcome to the Maintenance Plan conversion wizard
(Step 1 of 4)
SQL Angel
This wizard helps you convert Maintenance Plans to Policies, which SQL Angel can manage. Only Maintenance Plans with linear structure can be converted. It is recommended to disable Maintenance Plans after conversion to avoid side-effects.
Help
<Back
Next>
Finish
Cancel

Next step >>

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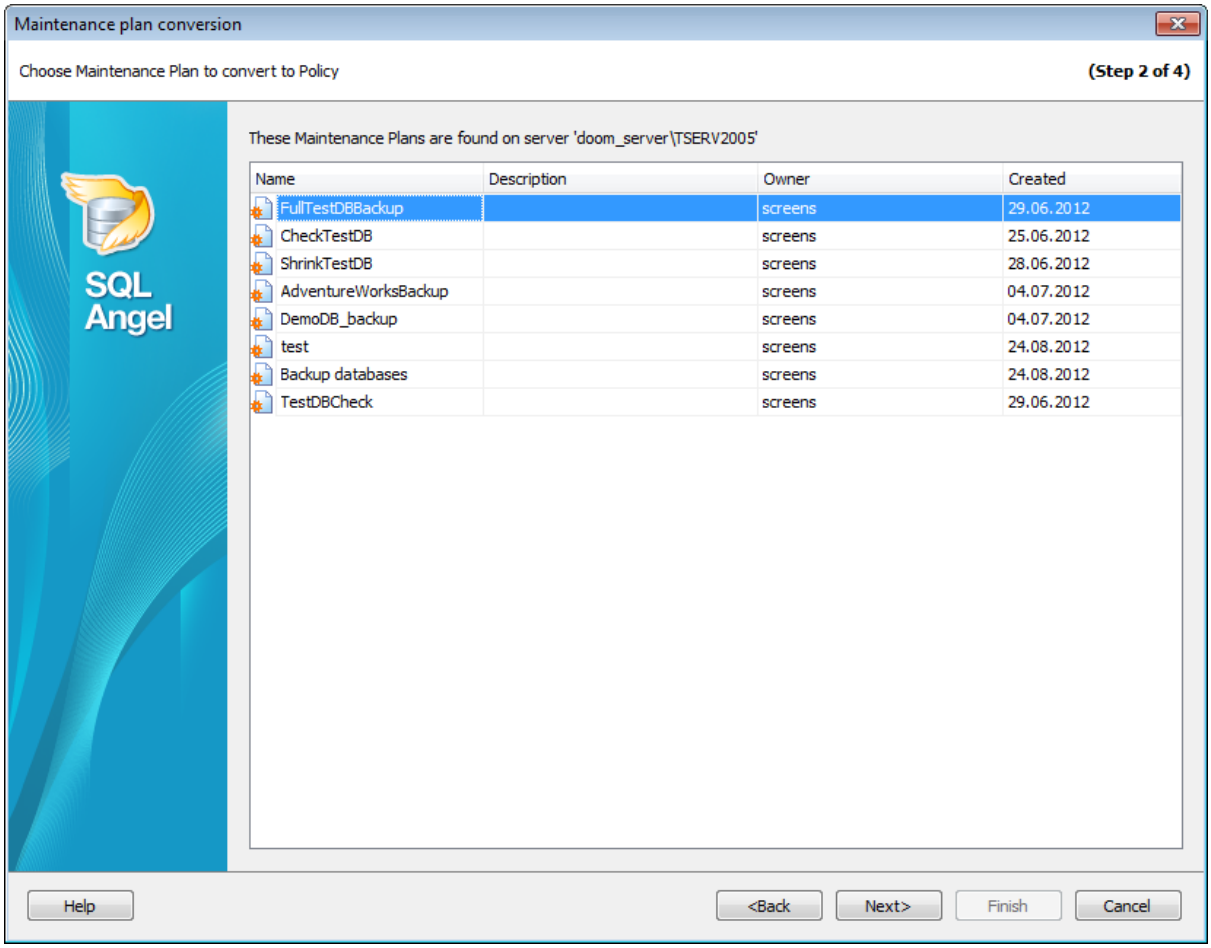
4.4.2 Selecting Maintenance plan to convert to policy

At this step you can see the list of Maintenance Plans created by SQL Server Management Studio.



You need to select one of the Maintenance Plans to be converted into Policy. The conversion will be performed at the next step.

Note that this function is only available if SQL Server Integration Services are installed on the server.

[<< Previous step](#) [Next step >>](#)

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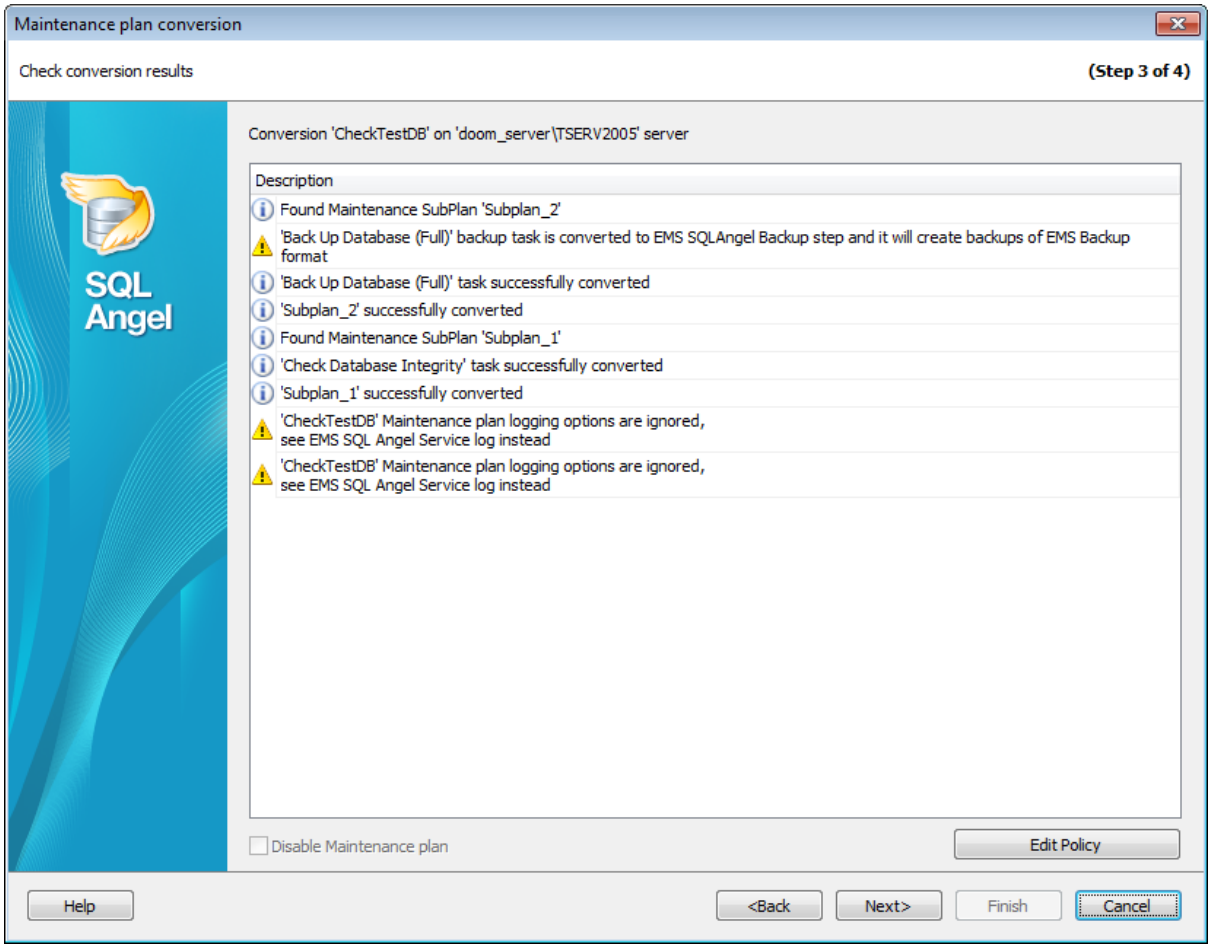
4.4.3 Performing conversion

At this step the selected Maintenance Plan is being converted to Policy.


Maintenance plan conversion
Check conversion results
(Step 3 of 4)
SQL Angel
Conversion 'CheckTestDB' on 'doom_server\TSERV2005' server
Description
Found Maintenance SubPlan 'Subplan_2'
'Back Up Database (Full)' backup task is converted to EMS SQLAngel Backup step and it will create backups of EMS Backup format
'Back Up Database (Full)' task successfully converted
'Subplan_2' successfully converted
Found Maintenance SubPlan 'Subplan_1'
'Check Database Integrity' task successfully converted
'Subplan_1' successfully converted
'CheckTestDB' Maintenance plan logging options are ignored, see EMS SQL Angel Service log instead
'CheckTestDB' Maintenance plan logging options are ignored, see EMS SQL Angel Service log instead
Disable Maintenance plan
Edit Policy
Help
<Back
Next>
Finish
Cancel

If there are any errors on conversion you can open the Policy with **Edit Policy** button to view and correct them.

Set the **Disable Maintenance plan** option ON to disable Maintenance Plan in SQL Server Management Studio.

<< Previous step

Next step >>

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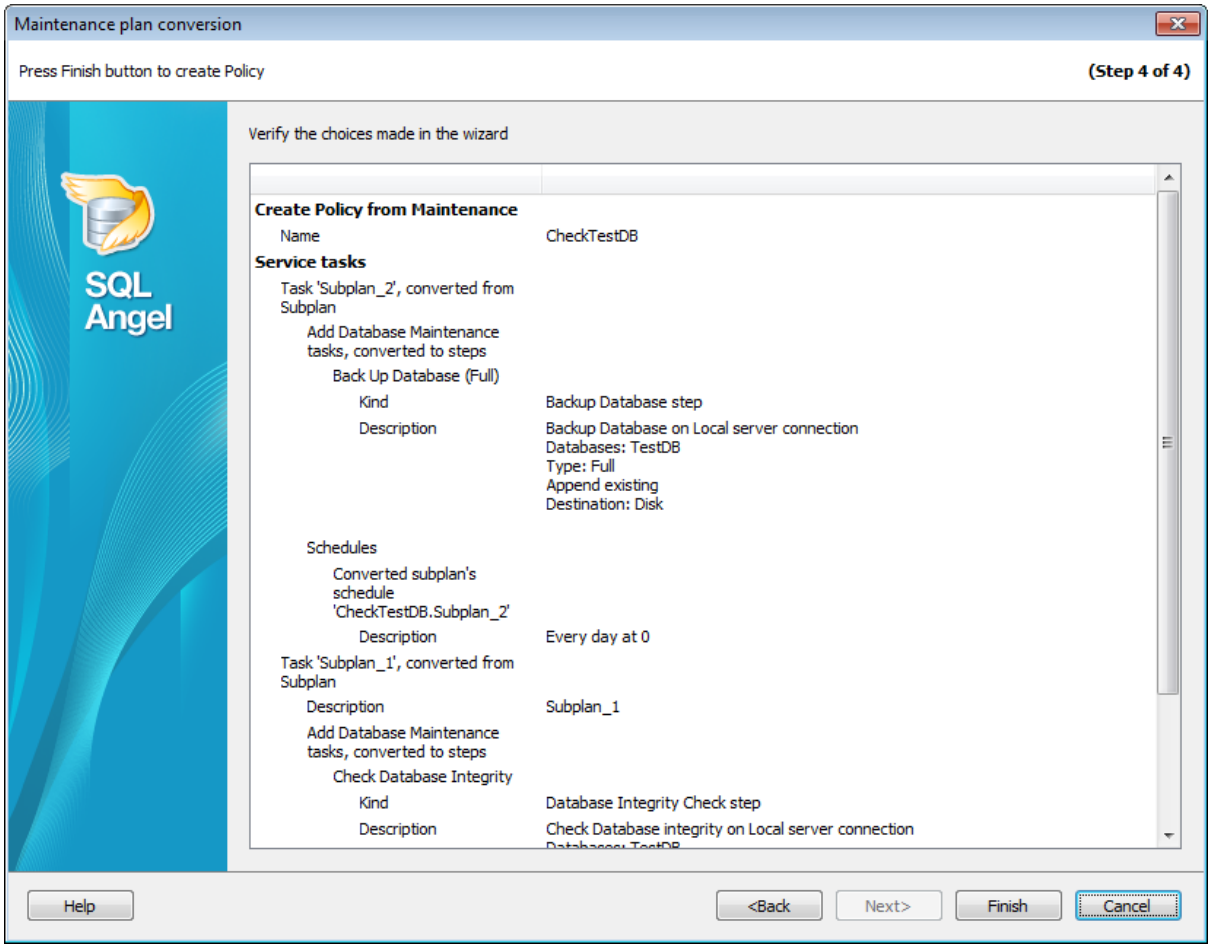
4.4.4 Operation execution

At this step you can view parameters specified on previous steps. To complete the operation execution and set the policy on the server click the *Finish* button.



[<< Previous step]

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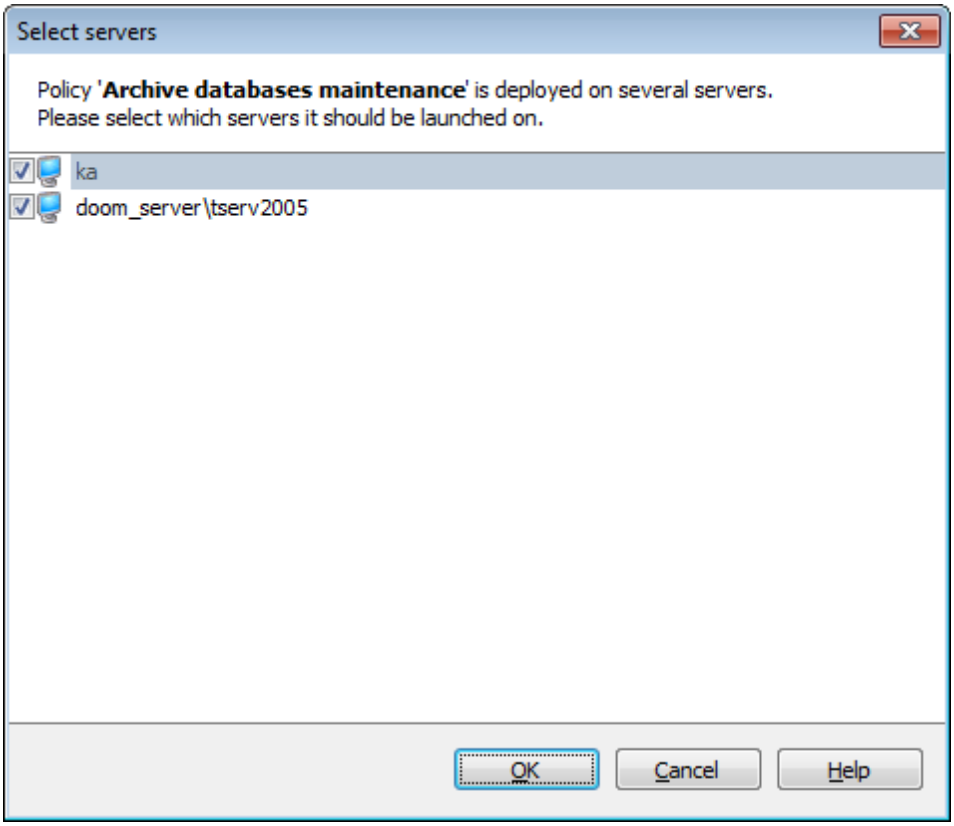
4.5 Execute policy

The policies are executed automatically in accordance with the schedule(s) specified for it. If needed you can launch the policy manually at the Servers tab.

At the Servers tab select the policy to be executed in the Policies section and use the **Execute Policy** item from the popup menu or double-click the policy.

If the policy is deployed on several servers you will be prompted to select the servers for policy execution.



The information about current execution is available at Activities page and about all launches at the Policy History viewer.

See also:
Policy wizard
Policy editor
Maintenance plan conversion
Resolve problem
Viewing Policy History

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4.6 Policy status

Waiting - the task has not been performed yet and it is waiting for its launch time.

Succeeded – the task has been successfully completed.

Warning - the task has been completed with some minor errors. Warnings include out-of-range parameters for Database Parameters Logger and some warnings on execution that do not affect the final result.

Failed – the task execution has failed.

Executing – the task is being executed at the moment.

Aborted – the execution of the task has been cancelled and it is in process of stopping it.

Missed – the expected time of task execution has passed but no launch of the task was detected

Unknown – information about task execution cannot be retrieved unless connection the server is set.

Ignored – the task was marked as ignored as a result of Problem resolving.

The overall server status is formed on the basis of policies statuses deployed there.
If all policies on a server have *Success* status then the server status is **Policies are successful**.
If at least one policy on a server has *Warning* status then the server status is **Policies have warnings**.
If at least one policy on a server has *Failed* status then the server status is **Policies have problems**.

The overall group or solution status is formed on the basis of all policies statuses of servers included into group or solution.
If all policies of all servers in a group/solution have *Success* status then the group/solution status is **Policies are successful**.
If at least one policy on at least one server has *Warning* status then the group/solution status is **Policies have warnings**.
If at least one policy on at least one server has *Failed* status then the group/solution status is **Policies have problems**.

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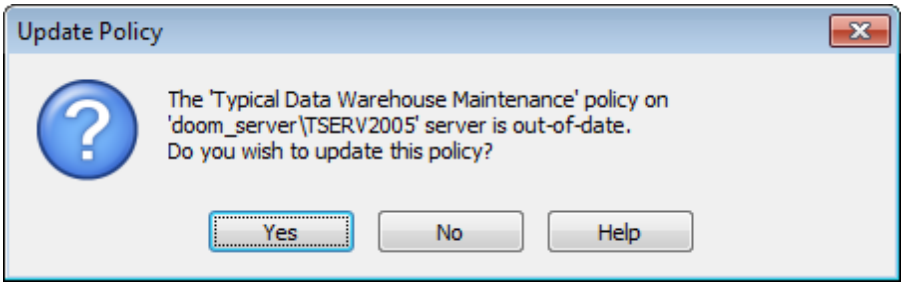
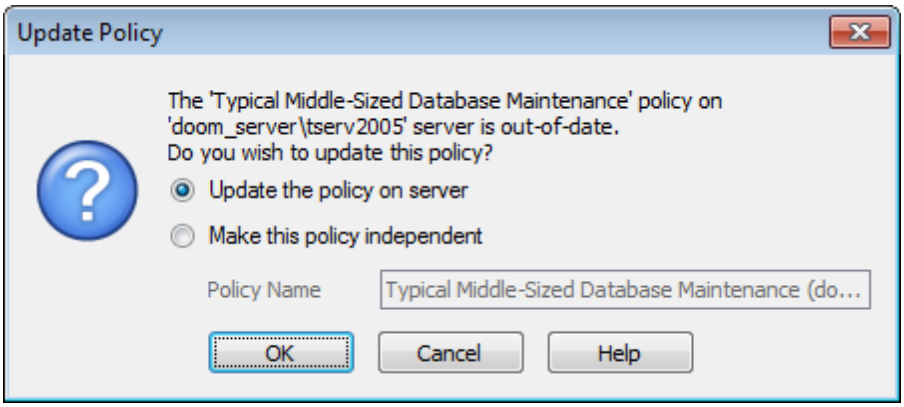
4.7 Policy synchronization

When you are connecting to a server policies configurations stored on a server and in SQL Angel Console are compared. If they do not match notifications that describe problems appear.

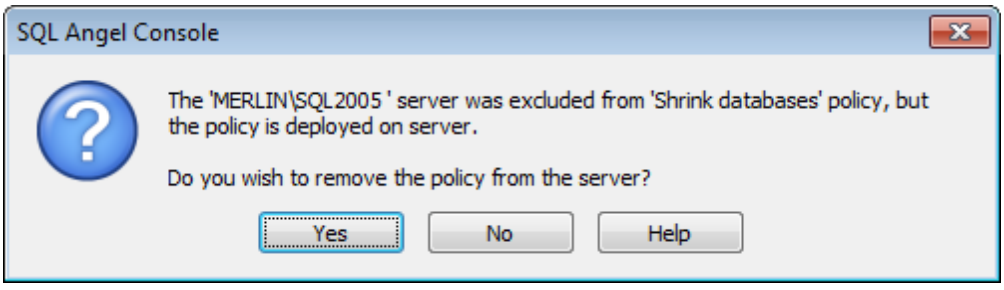
Update Policy - if a policy was changed when a server was not connected.
If a policy was deployed on this single server you are offered to update server working copy of this policy on the basis of SQL Angel Console configuration.



If a policy was deployed on several servers you are offered to update this policy on a server or make it independent that is to create a new policy on the basis of SQL Angel Console configuration on this server.



Remove Policy - if a policy was removed when a server was not connected. You are offered to remove server working copy of this policy.


SQL Angel Console
The 'MERLIN\SQL2005 ' server was excluded from 'Shrink databases' policy, but the policy is deployed on server.
Do you wish to remove the policy from the server?
Yes
No
Help

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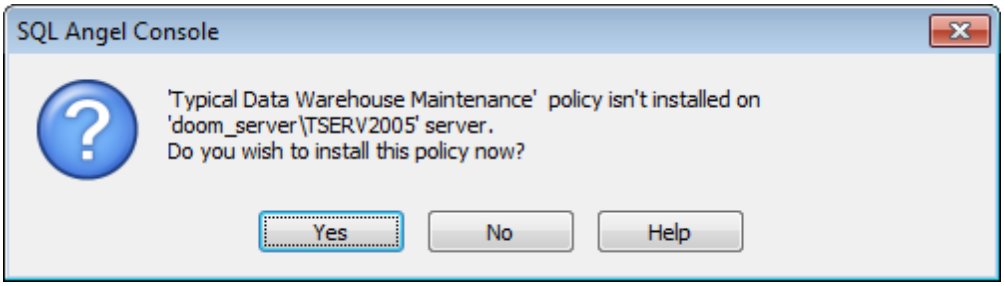
Install Policy - if a policy was created when a server was not connected. You are offered to install a server working copy of this policy.



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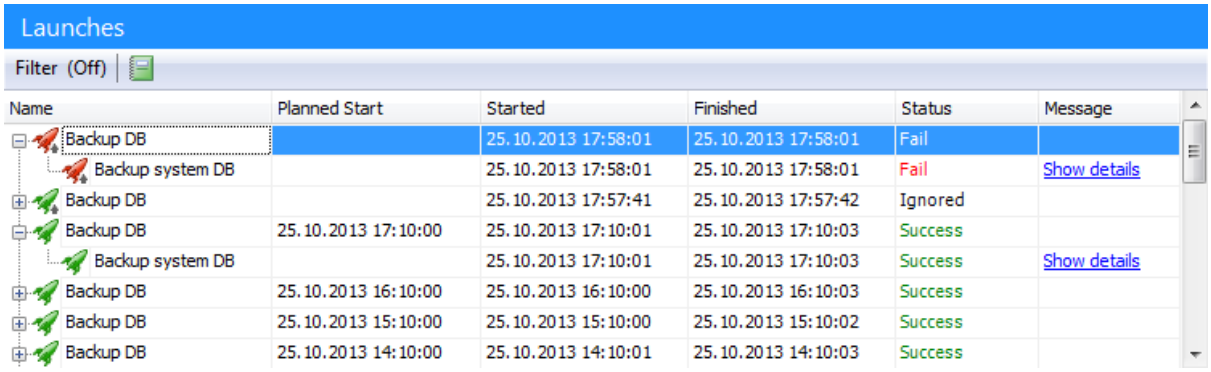
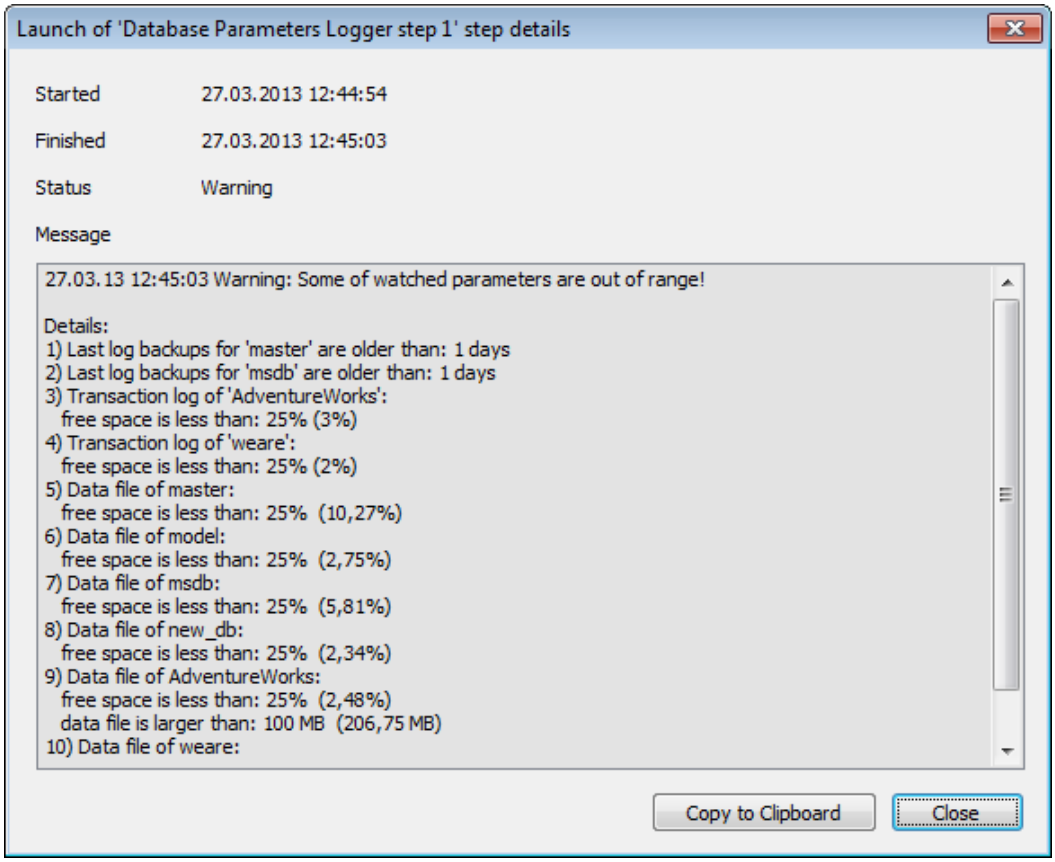
4.8 Launches

All policy tasks launches are listed in the **Launches** area on the Servers tab.
The following information about launches is provided: *policy/task/step name*, *planned start time*, *actual start time*, *finish time*, *execution status* and *message*.



You can view a detailed information on every step execution by clicking the **Show details** button in the *Message* column for the selected step.


Launch of 'Database Parameters Logger step 1' step details
Started
27.03.2013 12:44:54
Finished
27.03.2013 12:45:03
Status
Warning
Message
27.03.13 12:45:03 Warning: Some of watched parameters are out of range!
Details:
1) Last log backups for 'master' are older than: 1 days
2) Last log backups for 'msdb' are older than: 1 days
3) Transaction log of 'AdventureWorks':
free space is less than: 25% (3%)
4) Transaction log of 'weare':
free space is less than: 25% (2%)
5) Data file of master:
free space is less than: 25% (10,27%)
6) Data file of model:
free space is less than: 25% (2,75%)
7) Data file of msdb:
free space is less than: 25% (5,81%)
8) Data file of new_db:
free space is less than: 25% (2,34%)
9) Data file of AdventureWorks:
free space is less than: 25% (2,48%)
data file is larger than: 100 MB (206,75 MB)
10) Data file of weare:
Copy to Clipboard
Close

The dialog appeared displays information about step execution start and finish time, result execution status and detailed information about maintenance actions results. If a step

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has a failed status the reason of failed execution will be displayed in the **Message** field.

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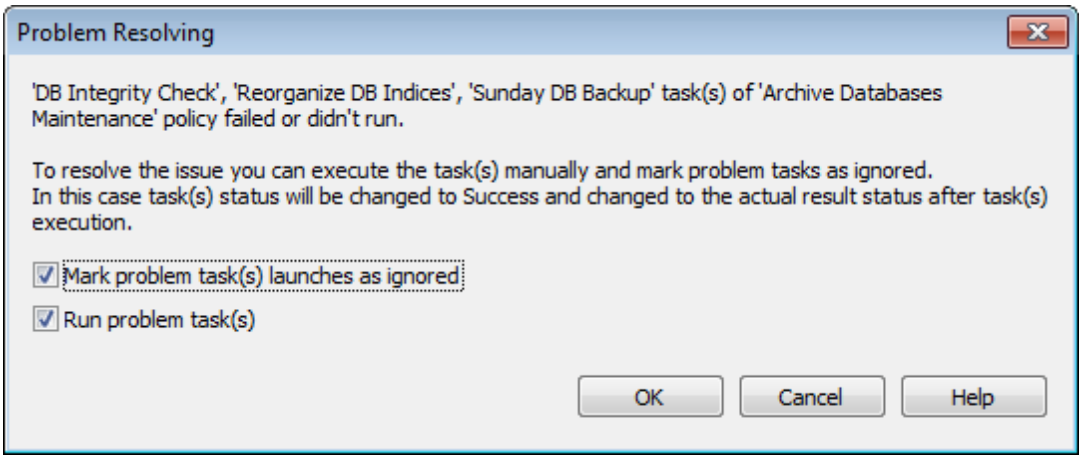
4.9 Resolve problem

The policy can result in *Warning*, *Error* or *Missed* status. You can manage policy status overview at the *Servers page*. After detecting that some of your policies tasks have failed you can resolve the problem tasks by *marking the problem as ignored* and, if needed, execute the task once again.

To run the **Resolve task** dialog double-click the erroneous policy at the Policies list at *Servers page* or use the corresponding menu item for task or policy.


Problem Resolving
'DB Integrity Check', 'Reorganize DB Indices', 'Sunday DB Backup' task(s) of 'Archive Databases Maintenance' policy failed or didn't run.
To resolve the issue you can execute the task(s) manually and mark problem tasks as ignored.
In this case task(s) status will be changed to Success and changed to the actual result status after task(s) execution.
Mark problem task(s) launches as ignored
Run problem task(s)
OK
Cancel
Help

There are two options that can be applied to the policy to correct the errors:
Mark problem task launches as ignored - ignore status of erroneous task(s)
Run problem task(s) - execute the erroneous task(s) immediately

---

See also:
Policy wizard
Policy editor
Maintenance plan conversion
Execute Policy
Viewing Policy History

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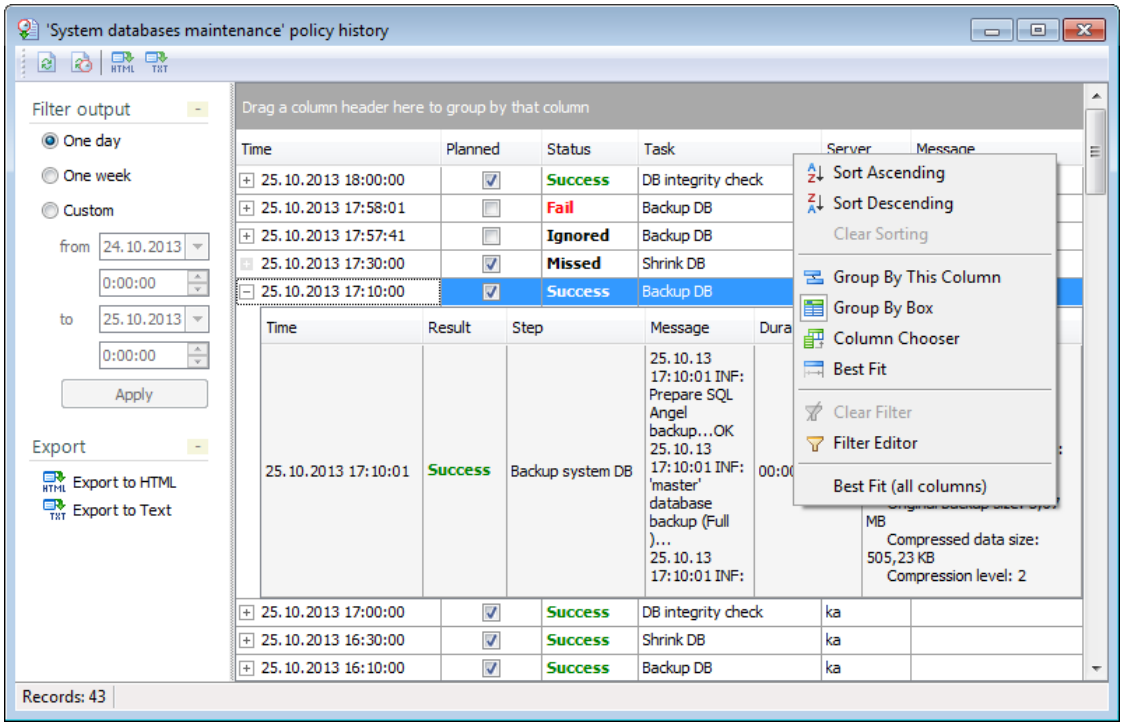
4.10 Viewing Policy History

This chapter describes the way you can view history of policy launches.

To view the history use the **Show history...** item from the object popup menu. You can call this viewer for the group of servers, server, specific launch or policy.

The main frame of this dialog contains a table with complete information about policy launches: *launch date, status, task name, policy server, policy status, result message.*

This table is customizable: you can change columns set, swap columns, set filtering and grouping.



The **Refresh** function (*F5*) updates the list of launches.

The **Auto refresh** mode sets automatic refreshing on. The window is refreshed when the new event is added to the log.

Filter output

One day
Information concerning policy launches performed not later than one day ago from the current date and time will be displayed.

One week
Information concerned policy launches performed not later than one week ago from the current date and time will be displayed.

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Custom
Enables setting date and time criteria. Information concerning policy launches performed **from** the specified date **to** the specified date will be displayed.

Click the **Apply** button to set the filter.

Export

Export to HTML. Use this option to export history data to HTML file. By default the report is saved in the program's folder.

Export to Text. Use this option to export history data to TXT file. By default the report is saved in the program's folder.

See also:
Policy wizard
Policy editor
Maintenance plan conversion
Execute Policy
Resolve problem

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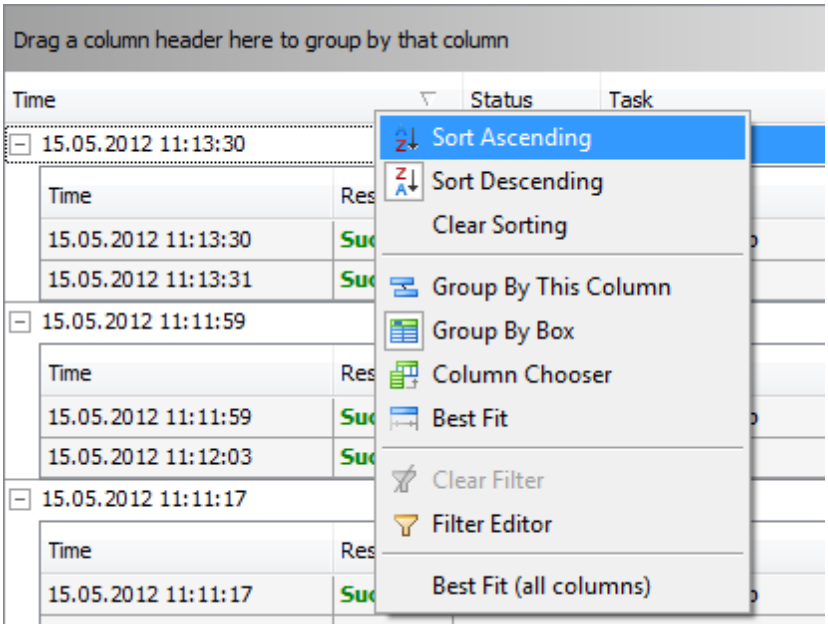
4.10.1 Sorting

You can perform data sorting in any table of **EMS SQL Angel**.

To perform sorting:

- click the column header to perform ascending or descending sorting of this column values. When sorting is applied for a column, an arrow icon appears to the right of its title;
- use the column header popup menu items for this purpose: **Sort Ascending** or **Sort Descending**.



To cancel sorting use the **Clear Sorting** item of the column header popup menu.

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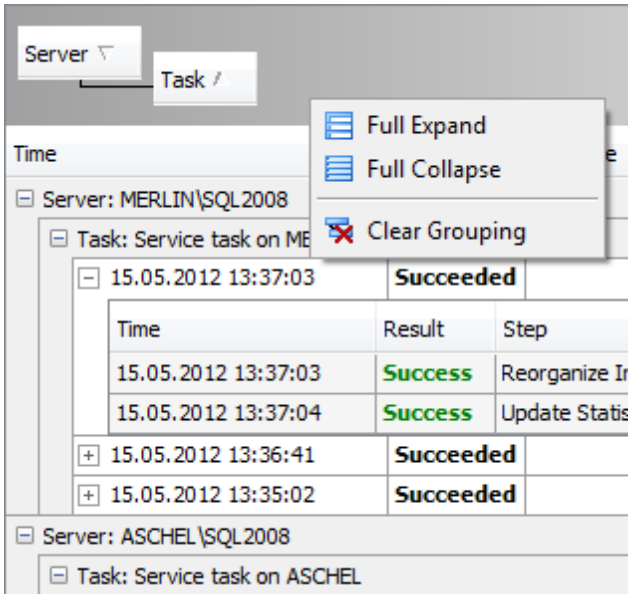
4.10.2 Grouping

When grouping by a column is applied, all records are displayed as subnodes to the grouping row value as displayed on the screenshot below. If necessary, you can group data by two or more columns. In this case column headers are displayed hierarchically.

To apply grouping:

- enable the **Group By Box** area in the column header popup menu;
- drag the column header to the gray area at the top or use the **Group by this column** popup menu item of the column header.



To reverse grouping:

- drag the column header back;
- use the **UnGroup** item of the grouped column to clear a specific grouping;
- use the **Clear grouping** item of the Group by area popup menu to remove all grouping.

If necessary, you can group data by two or more columns. In this case column headers are displayed hierarchically, and data are grouped by these columns in the order the column headers appear in the **Group by** area.

The **Group by** area popup menu allows you to perform: **Full Expand**, **Full Collapse** and **Clear Grouping**.

You can disable or enable any column. Open the **Column Chooser** and drag any column header to disable this column from table. To add any disabled column drag the header back from the **Column Chooser** panel to the table.

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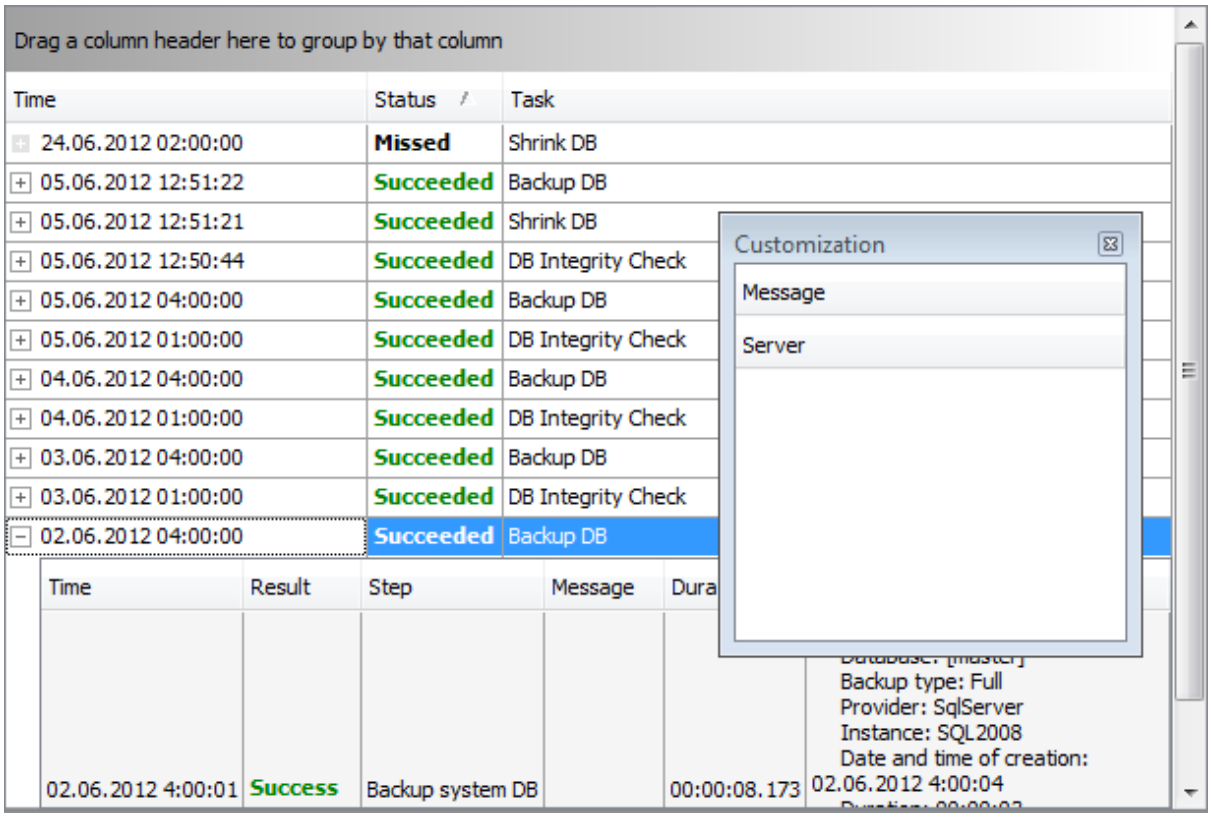

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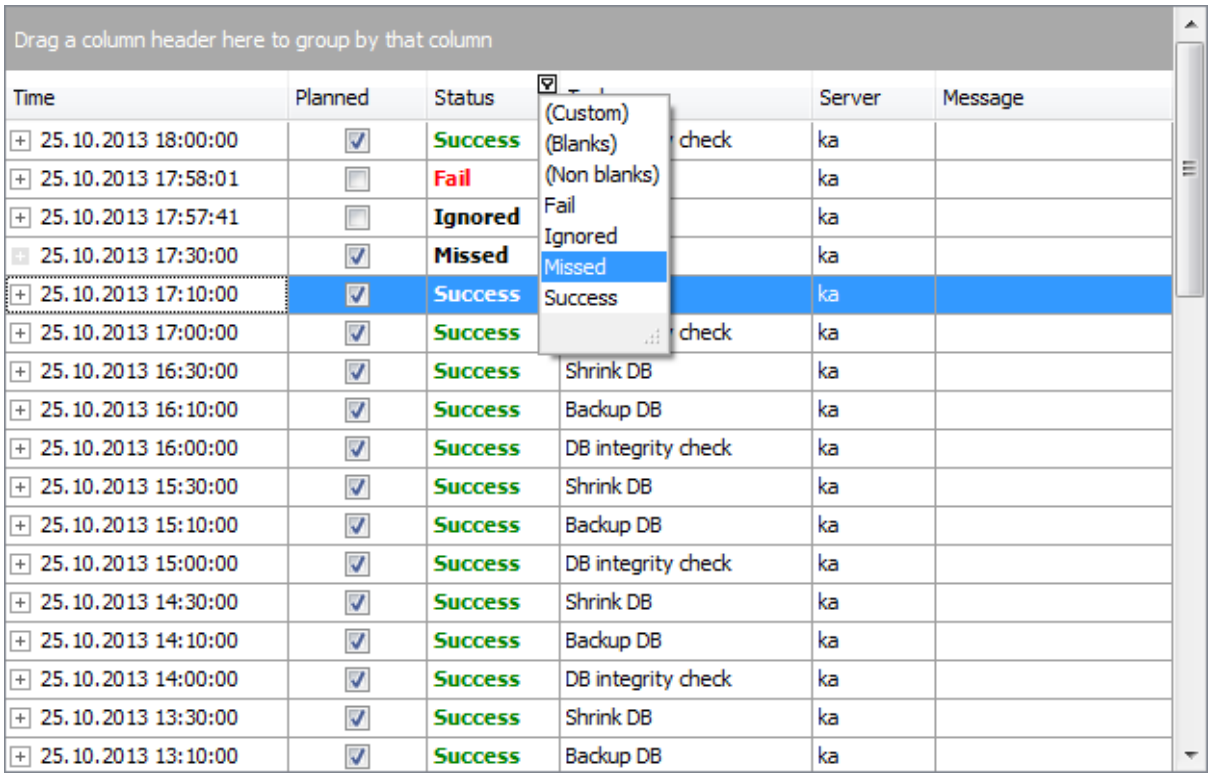
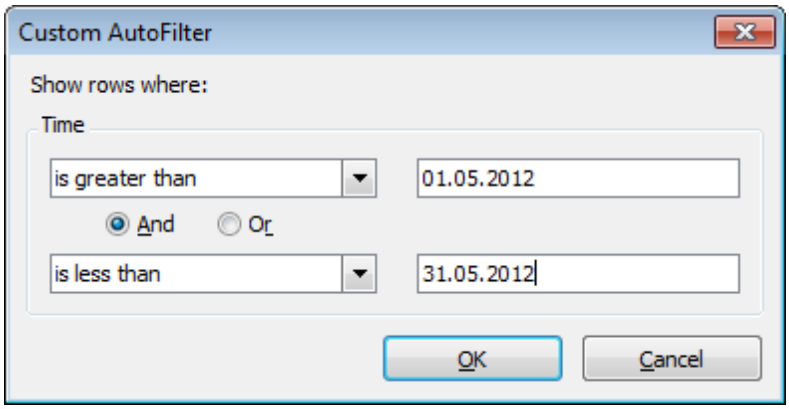
4.10.3 Filtering

It is possible to make quick filtering by a specific value, or by *blank*/*non blank* field criteria. To activate quick filter press the button in the upper-right corner of the column header like at the screenshot below.



To apply manually defined conditions use the *Custom* item of the drop-down list.



Pick the logical expression from the lists on the left and define values in the fields on the right. Use the '_' character to represent any single symbol, and use the '%' character to represent any series of symbols in the condition string. Relation between these conditions is defined with *And*/*Or* options.

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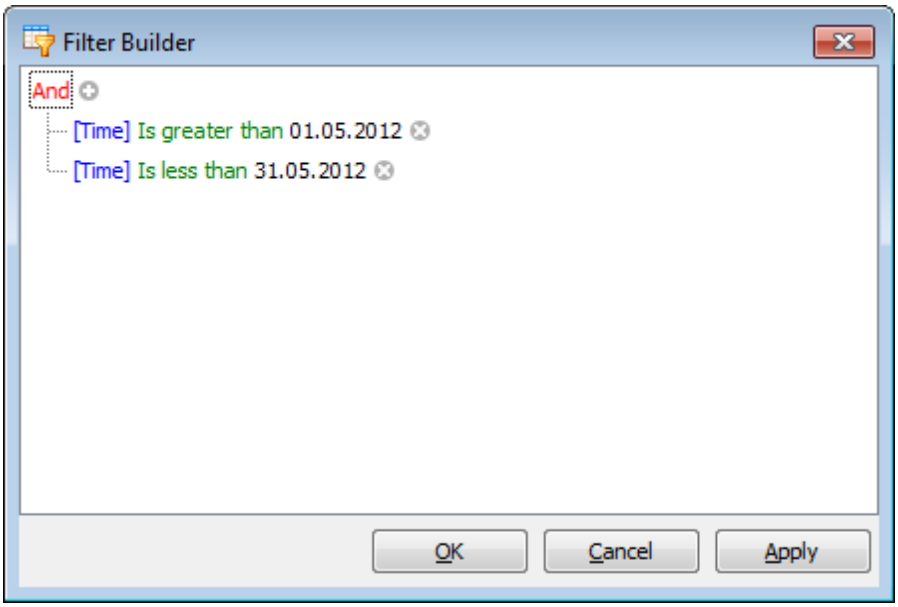
For more complex filtering use the **Filter Builder**. In this dialog you can set as much conditions as you need.

To launch the builder use the **Filter Editor** item of the column header popup menu.



Condition consists of Column, Logical operator and Value. Press any of this elements to change its value.

Two or more conditions form Condition group. Its popup menu allows you to change relations between child conditions (**And**, **Or**, **Not And**, **Not Or**), to **Add Condition** or **Condition Group** or to **Remove Group**. For root condition group the **Clear All** operation is also available.

Note: You can use the *Insert* keyboard button to add a condition to the selected group and the *Delete* button to clear filter.

When any filter is applied the grey panel appears in the bottom of the grid.

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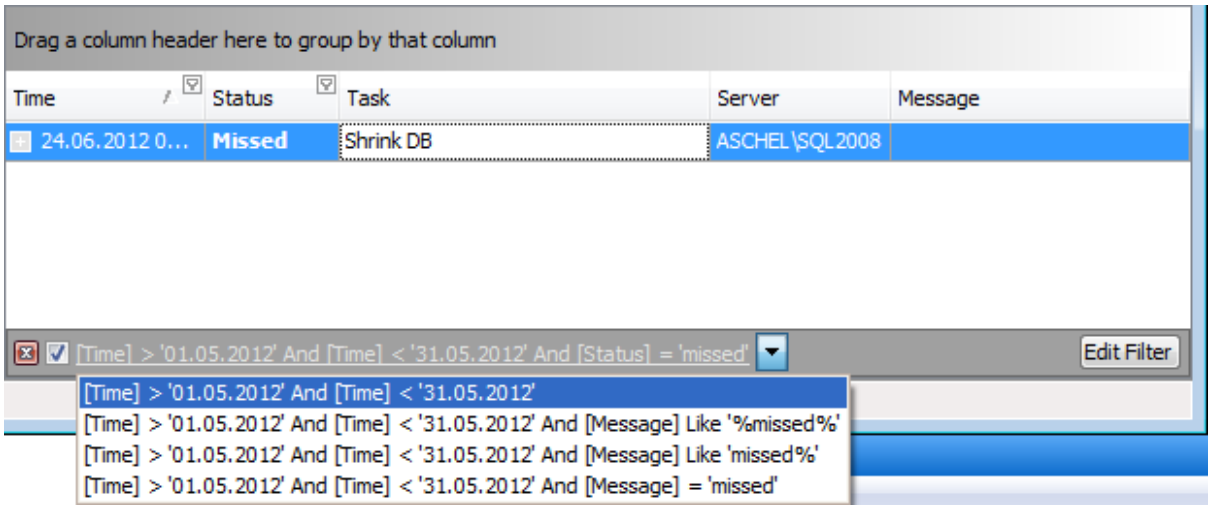

Flag control enables/disables filtering. The arrow-down button opens the list containing recently applied filters.
To open current filter expression in the **Filter Builder** press the **Edit Filter** button.
The **Close** button disables panel and cancels filtering.

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Part V

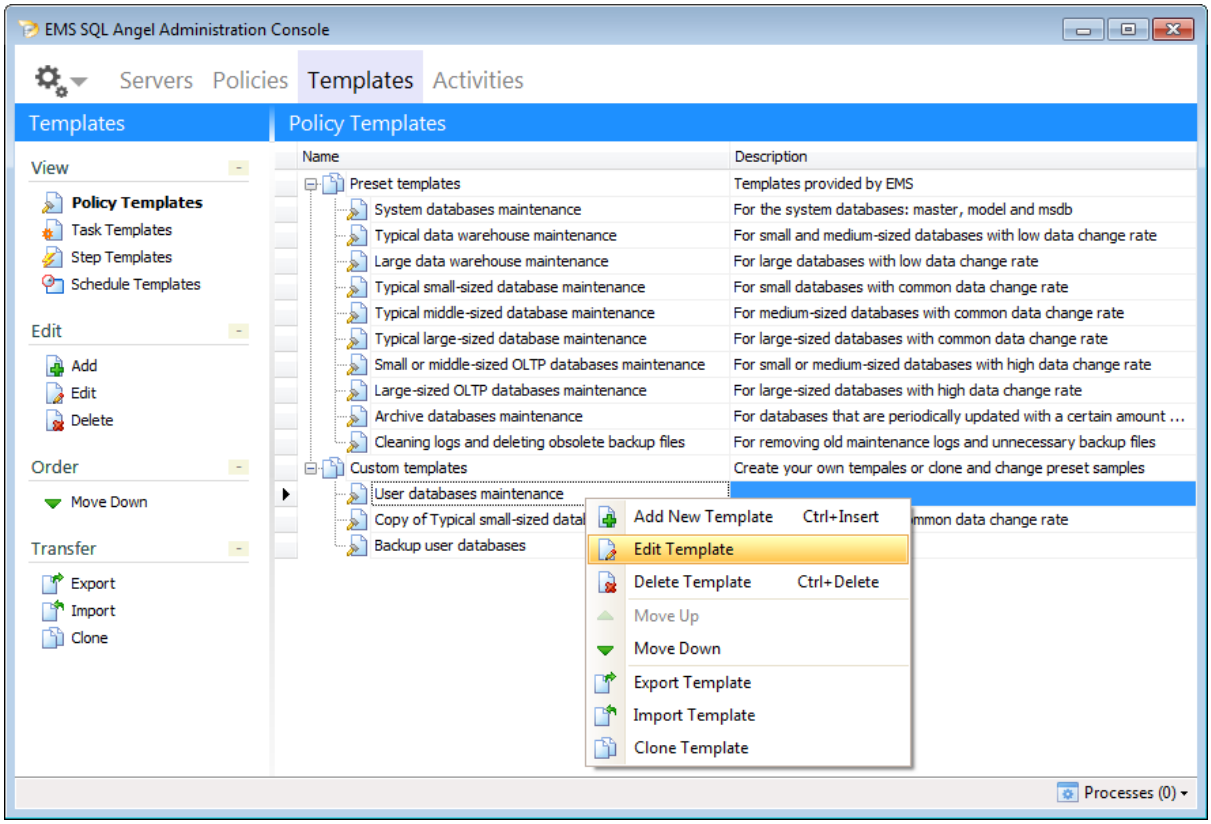
5 Templates

This chapter describes the way you can manage policy, service task and schedule templates.

SQL Angel has a set of standard *preset templates* for easy creation of policies and their elements. You can create your own policy templates or widen the template library on the basis of already created objects.

To activate the template management section switch to the **Templates** tab:

Policy templates
Task templates
Step templates
Schedule template



How to create a new template:
Proceed to the **Templates** tab and **add new template** in the appropriate section.

How to create a template from the existing policy:
Proceed to the **Policies** tab and select **Create template from policy** from policy's popup menu.

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The program provides a set of standard templates.

To **Import** and **Export** templates to an external **.xml* file, use the **Import Template** and **Export Template** context items correspondingly.
To create a template copy select it in the list of templates and use the **Clone Template** context menu item.

See also:
Getting Started
Servers
Policies
Activities
Maintenance Actions
Options

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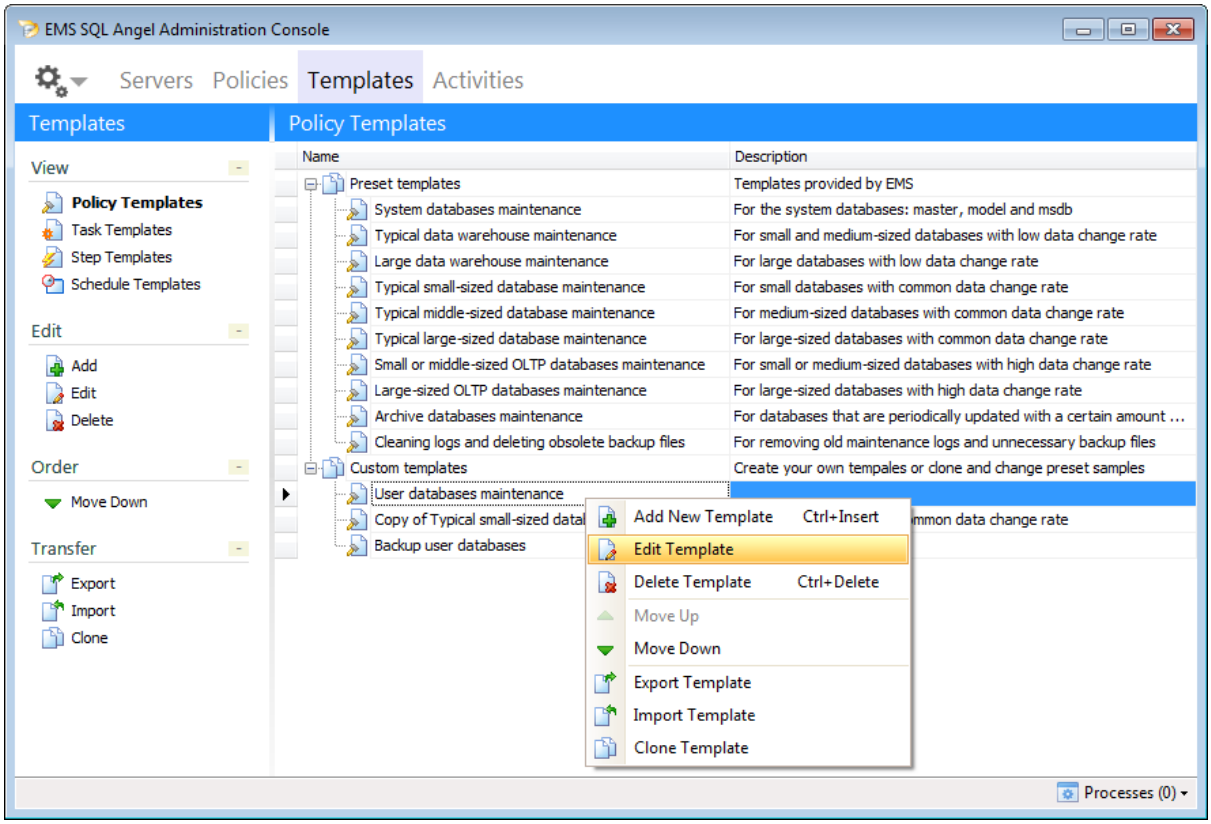
5.1 Policy templates

The **Policy Templates** page allows you to manage policy templates.

Policy template is a preset policy that can be used for creating new policies on its basis. You can add or edit its settings in the process of policy creation afterwards.



You can manage policy templates using the buttons on the Toolbars or popup menu.
Add New Template *(Ctrl+Insert)* - launches the wizard for creating a new policy template
Edit Template - opens the policy template editor
Delete Template *(Ctrl+Delete)* - removes the template
Export Template.
Import Template
Clone Template - create a copy of the selected template

How to create a policy based on the template:

Use the **Maintenance Policies | Create Policy from Template** item form the popup menu at the Policies page.
or
use the **Create from templates** item from the popup menu at the Servers page.

How to create a template from the existing policy:

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Proceed to the **Policies** page and select **Create template from policy** from policy's popup menu.

See also:
Task templates
Step templates
Schedule template

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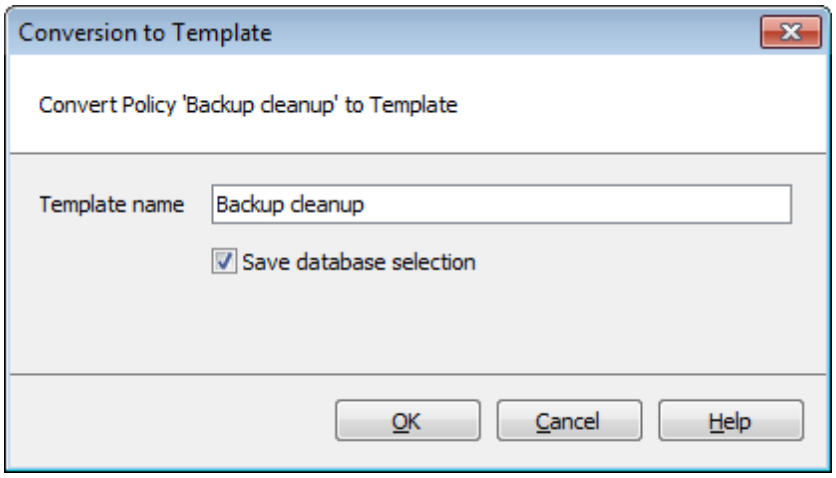
5.1.1 Creating template from policy

If you already have a configured policy you can create a template on its basis which can be later used for creating a new policy. It will contain all tasks, steps and schedules of this policy with their defined parameters.

In order to create a template based on a policy select the necessary policy in the list on the **Policies** tab and then choose the **Create Template from Policy** context menu item.

In the dialog appeared enter a **Template name** and define whether databases selected in the policy should be saved in the template being created.



This template will be automatically added to the Policy templates list.

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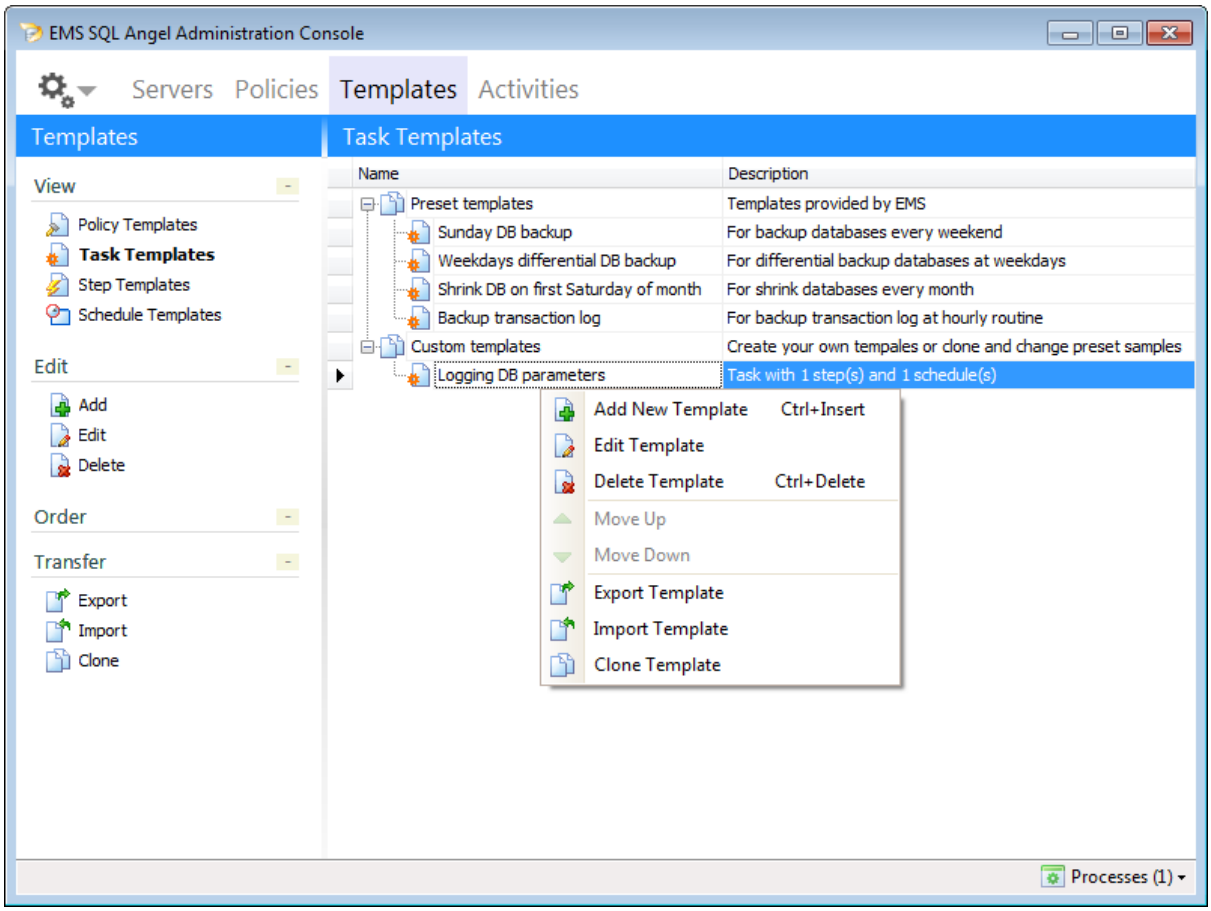
5.2 Task templates

The **Task Templates** page allows you to manage task templates.

Task template is a preset template, containing steps and schedules, that can be used for creating new tasks on its basis. You can add or edit its settings in the process of task creation.



You can manage task templates using the buttons on the Toolbars or popup menu.
Add New Template *(Ctrl+Insert)* - launches the wizard for creating a new task template
Edit Template - opens the task template editor
Delete Template *(Ctrl+Delete)* - removes the template
Export Template
Import Template
Clone Template - create a copy of the selected template

How to create a task based on the template:

When you are prompted to create a task on policy creation click the **Create New from Template** button and select the template or several templates at once from the list.

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See also:
Policy templates
Step templates
Step templates

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5.2.1 Create task wizard

This wizard will guide you through creating a task template that SQL Angel can run on a regular basis.

Task in SQL Angel is a set of scheduled steps to be performed on the server(s) or database(s).

You can schedule routine database administration steps.
Backup Database
Execute SQL Server Agent job
Execute T-SQL statement
History Cleanup
Database Integrity Check
Reorganize Indices
Shrink Database
Update Statistics
Database Parameters Logger
Maintenance Cleanup

Wizard steps:
Set service task name and description
Define a set of steps for service task
Define a schedule for service task
Task creating

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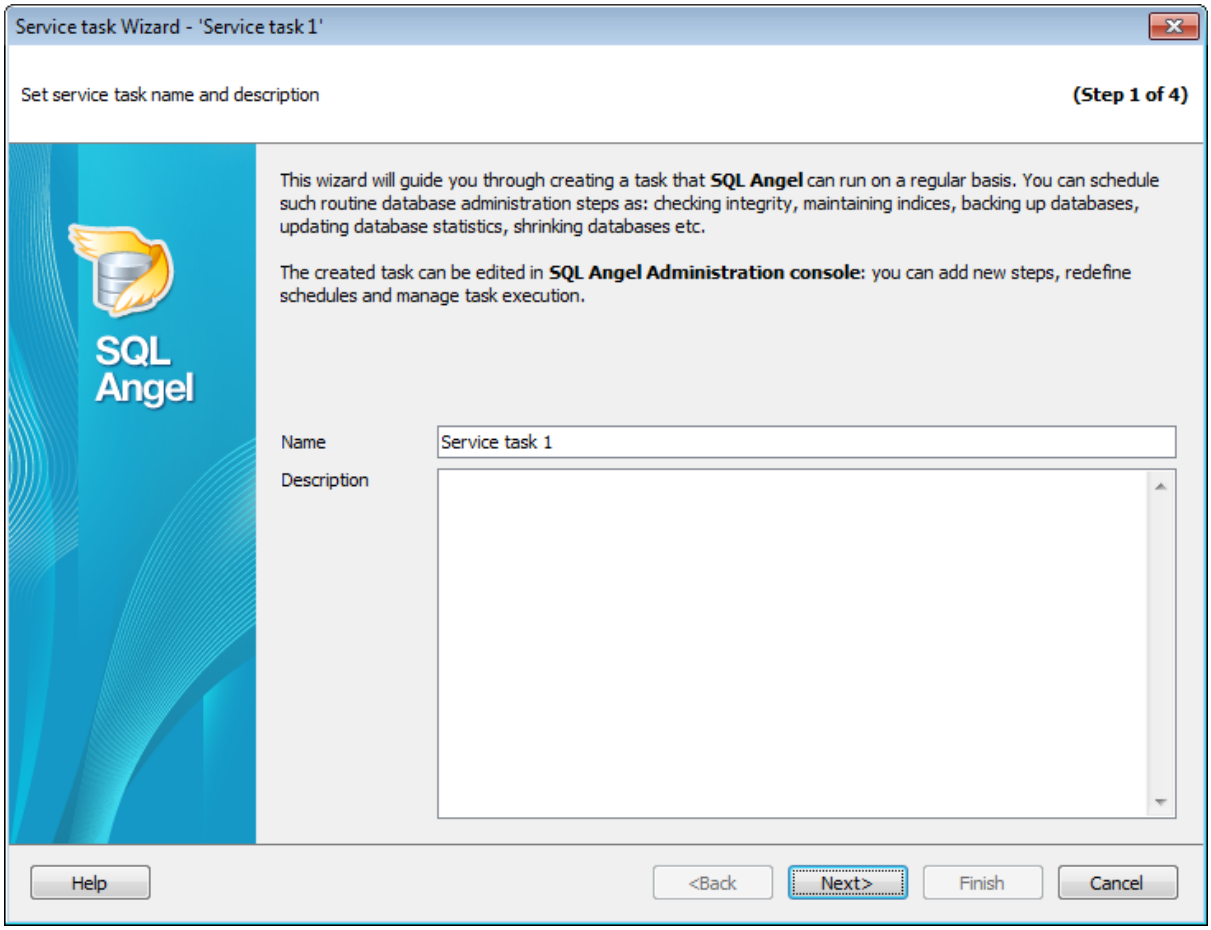
5.2.1.1 Set service task name and description

At this step you need to specify **Name** and **Description** for the task being created.


Service task Wizard - 'Service task 1'
Set service task name and description
(Step 1 of 4)
SQL Angel
This wizard will guide you through creating a task that SQL Angel can run on a regular basis. You can schedule such routine database administration steps as: checking integrity, maintaining indices, backing up databases, updating database statistics, shrinking databases etc.
The created task can be edited in SQL Angel Administration console: you can add new steps, redefine schedules and manage task execution.
Name
Service task 1
Description
Help
<Back
Next>
Finish
Cancel

Next step >>

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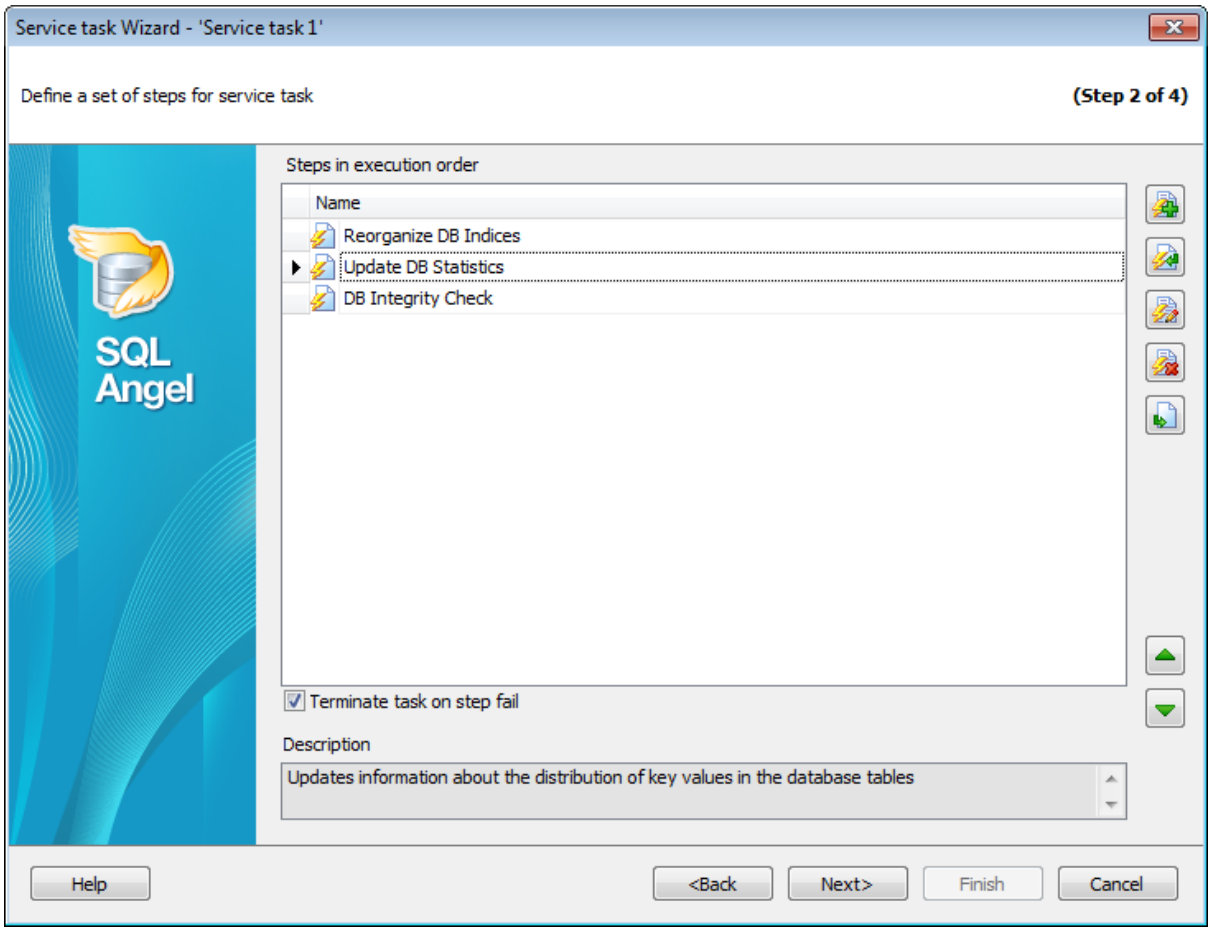
5.2.1.2 Define a set of steps for service task

Use this step of the wizard to build a list of steps in execution order to be performed on task launch.



Create new step - create a new step. You will be prompted to select Step type in the dialog and proceed to the Create step wizard.

Create step from template - create step from the template. The list of step templates will be open in this case allowing you to select any of the available templates and create a step based on its settings. If you select several step templates the corresponding number of steps will be created.

Edit step - change step settings.

Delete step - remove the step.

Copy step to templates - create a template based on the selected step.

You can view each step **Description**, if any, in the corresponding field.

Use and buttons to reorder Steps.

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Terminate task on step fail
If this option is checked then the execution of a whole task is aborted as a result of one of the steps fail.

<< Previous step Next step >>

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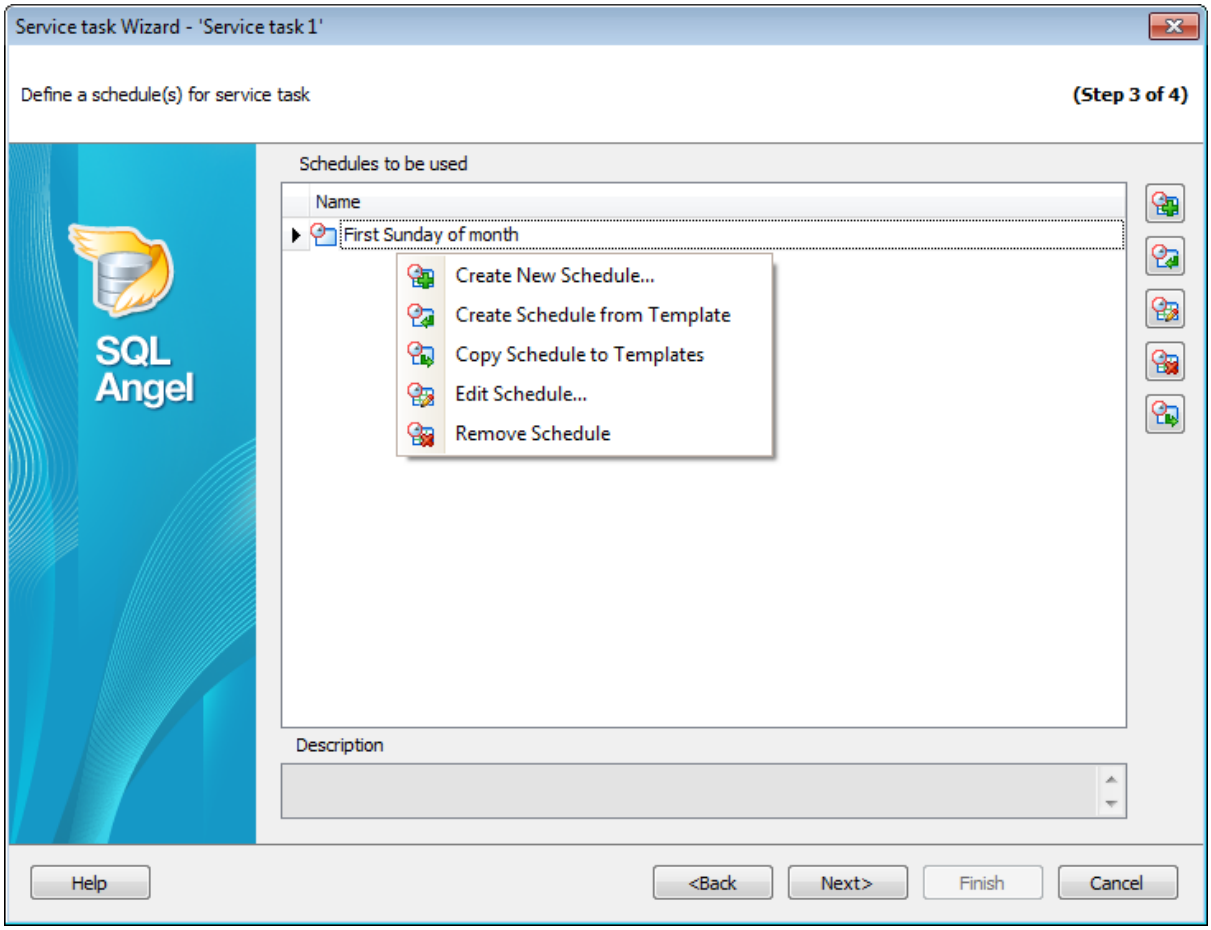
5.2.1.3 Define schedule for service task

At this step you need to set schedule(s) to be used for task launch.



Create new schedule. Clicking this button opens the Schedule Editor allowing you to create a schedule.

Create New Schedule from Template. Use this button to create schedule from template. On pressing this button the **Item selection** dialog is opened allowing you to select any of the available templates and create a schedule based on its settings. If you select several schedule templates the corresponding number of schedules will be created.

Edit Schedule. This button opens selected schedule for editing.

Delete Schedule. Click this button to remove selected schedule from the list.

Copy step to templates. Use this button to create a template based on the selected schedule.

You can view each step **Description**, if any, in the corresponding field.

<< Previous step Next step >>

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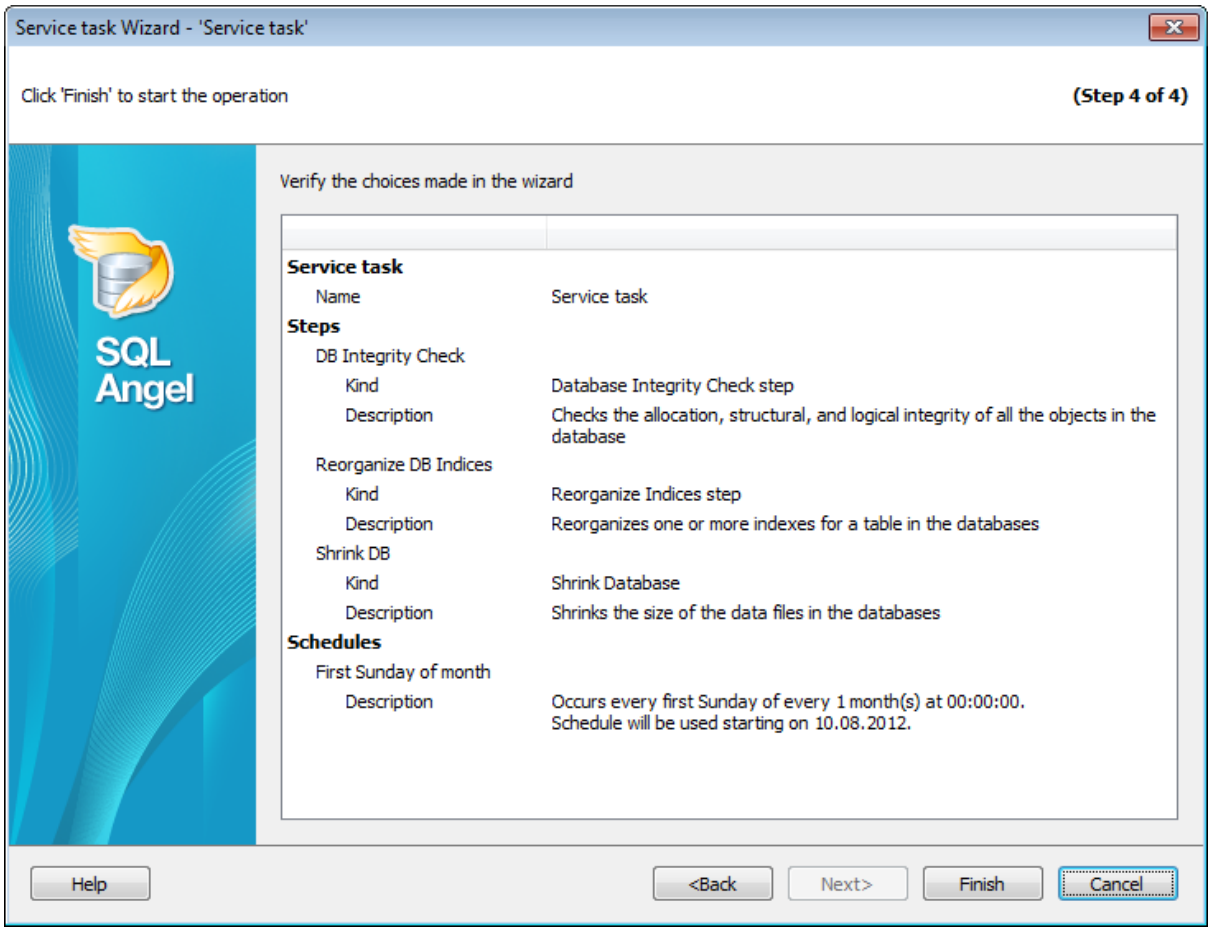
5.2.1.4 Creating task

At this step of the wizard you can see the summary of all options set at the previous steps.



You can **Verify the choices made in the wizard** in the corresponding area and click the **Finish** button to create the task.

<< Previous step

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5.2.2 Task editor

The **Task editor** allows you to view and edit task parameters. It provides the same set of options as Service task wizard.

Task editor tabs:
Name and description
Steps
Schedules

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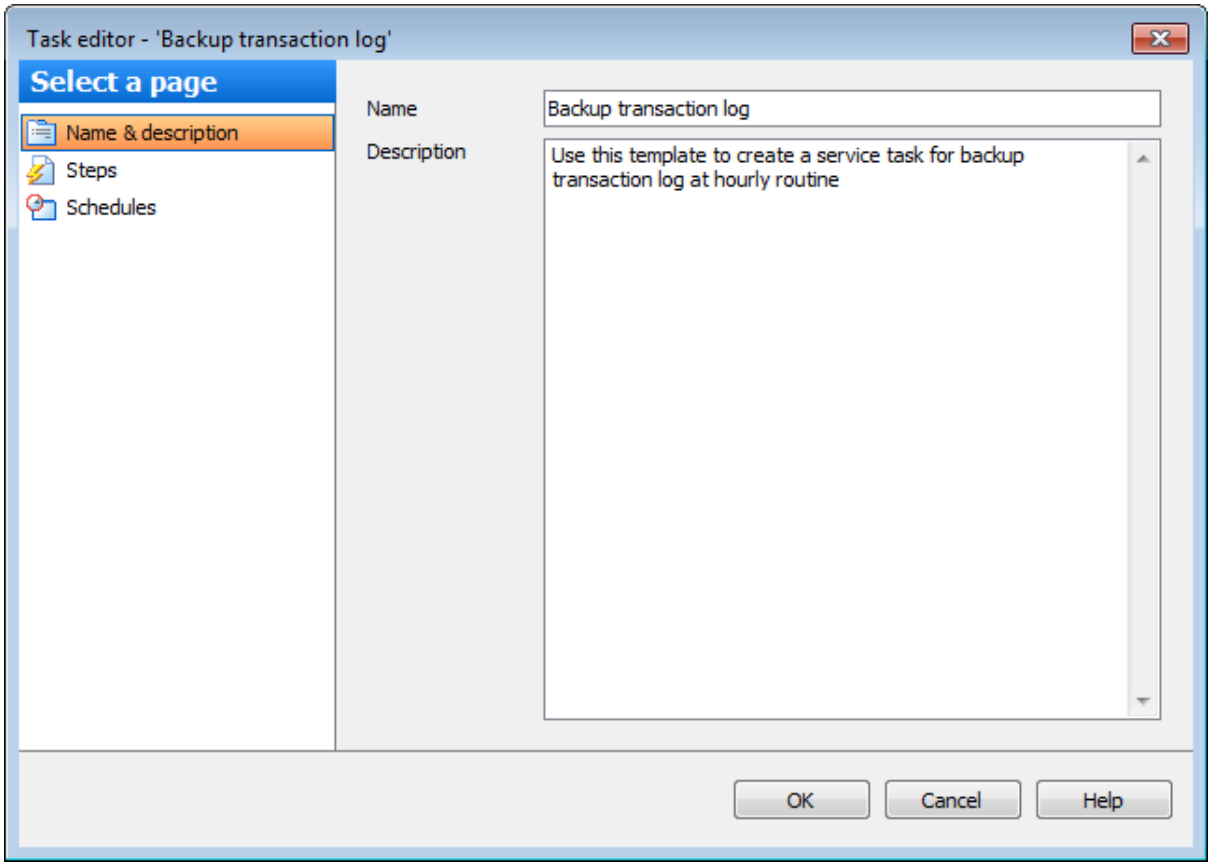
5.2.2.1 Name and description

At this section you can view\edit task *Name* and *Description*.



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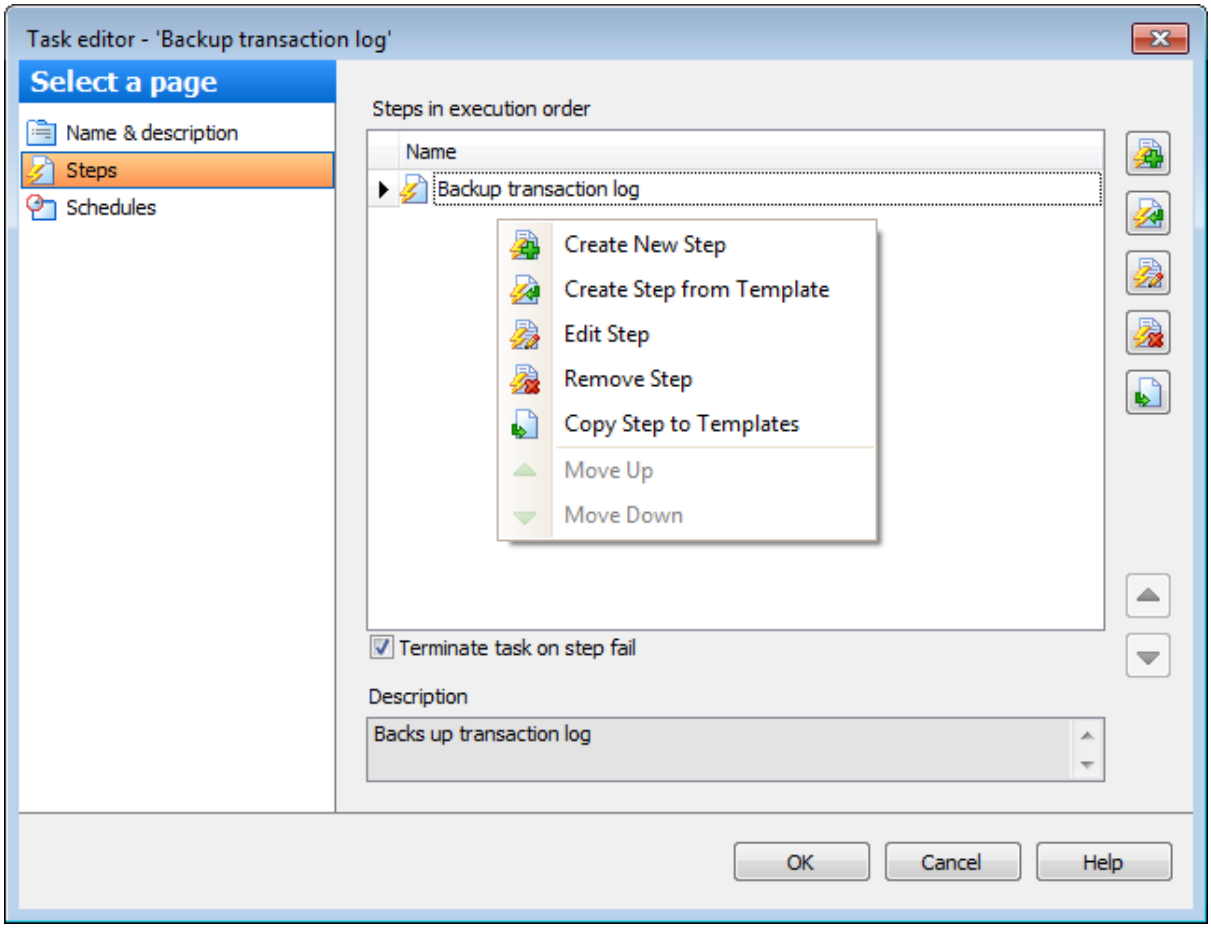
5.2.2.2 Steps

The **Steps** section allows you to view and edit the set of steps in the execution order.



Create new step - create a new step. You will be prompted to select Step type in the dialog and proceed to the Create step wizard.

Create step from template - create step from the template. The list of step templates will be open in this case.

Edit step - change step settings.

Delete step - remove the step.

Copy step to templates - create a template based on the selected step.

Use and buttons to reorder Steps.

Terminate task on step fail
If this option is checked then the execution of a whole task is aborted as a result of one of the steps fail.

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You can view each step **Description**, if any, in the corresponding field.

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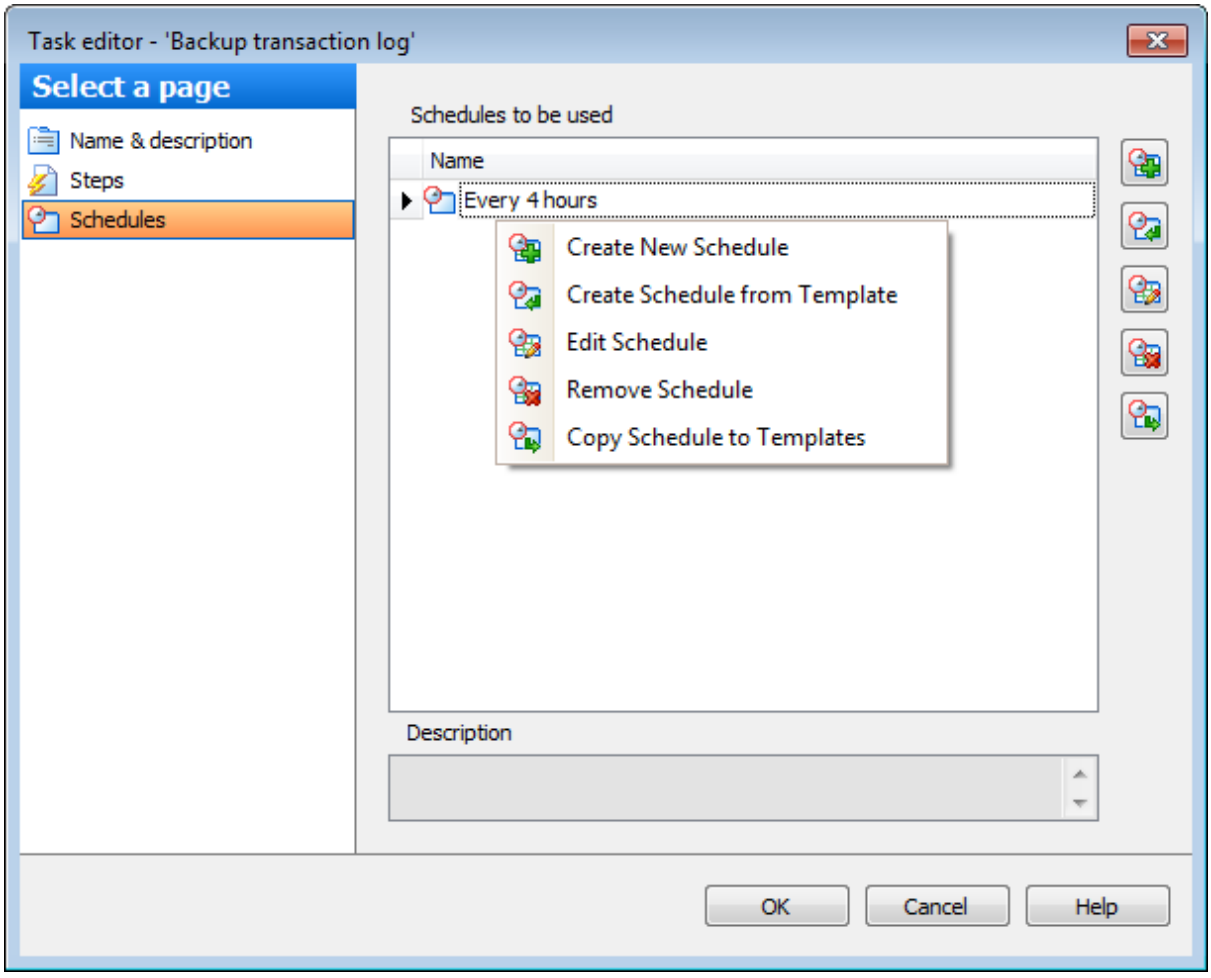
5.2.2.3 Schedules

The **Schedules** section allows you to view and edit schedule(s) for task execution.



Create new schedule. This button opens the Schedule Editor allowing you to create a schedule.

Create New Schedule from Template. Use this button to create schedule from template. On pressing this button the **Item selection** dialog is opened allowing you to select any of the available templates or create a new one.

Edit Schedule. This button opens selected schedule for editing.

Delete Schedule. Click this button to remove selected schedule from the list.

Copy step to templates. Use this button to create a template based on the selected schedule.

You can view each step **Description**, if any, in the corresponding field.

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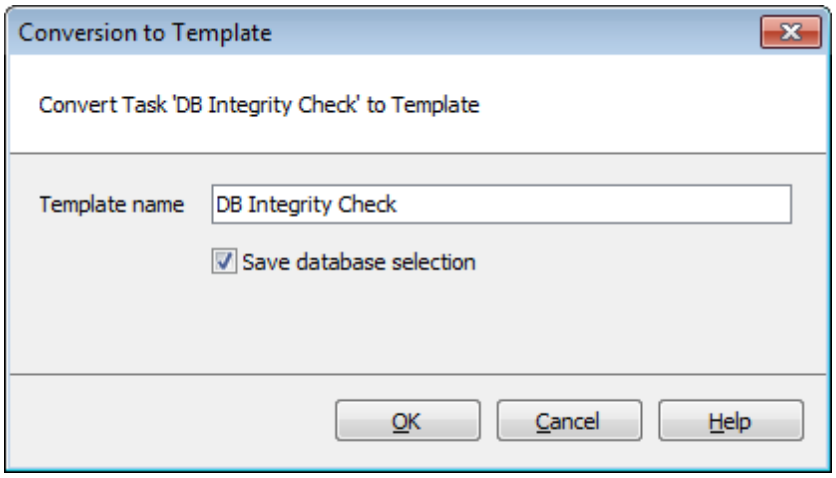
5.2.3 Creating template from task

If you already have a service task with defined configuration you can create a template on its basis which can be later used for creating a new service task. It will contain all steps and schedules of this task with their defined parameters.

In order to create a template based on a service task open the policy it is included in and select the **Copy to Templates** task context menu item or use the corresponding button.

In the dialog appeared enter a **Template name** and define whether databases selected in the task should be saved in the template being created.



This template will be automatically added to the Task templates list.

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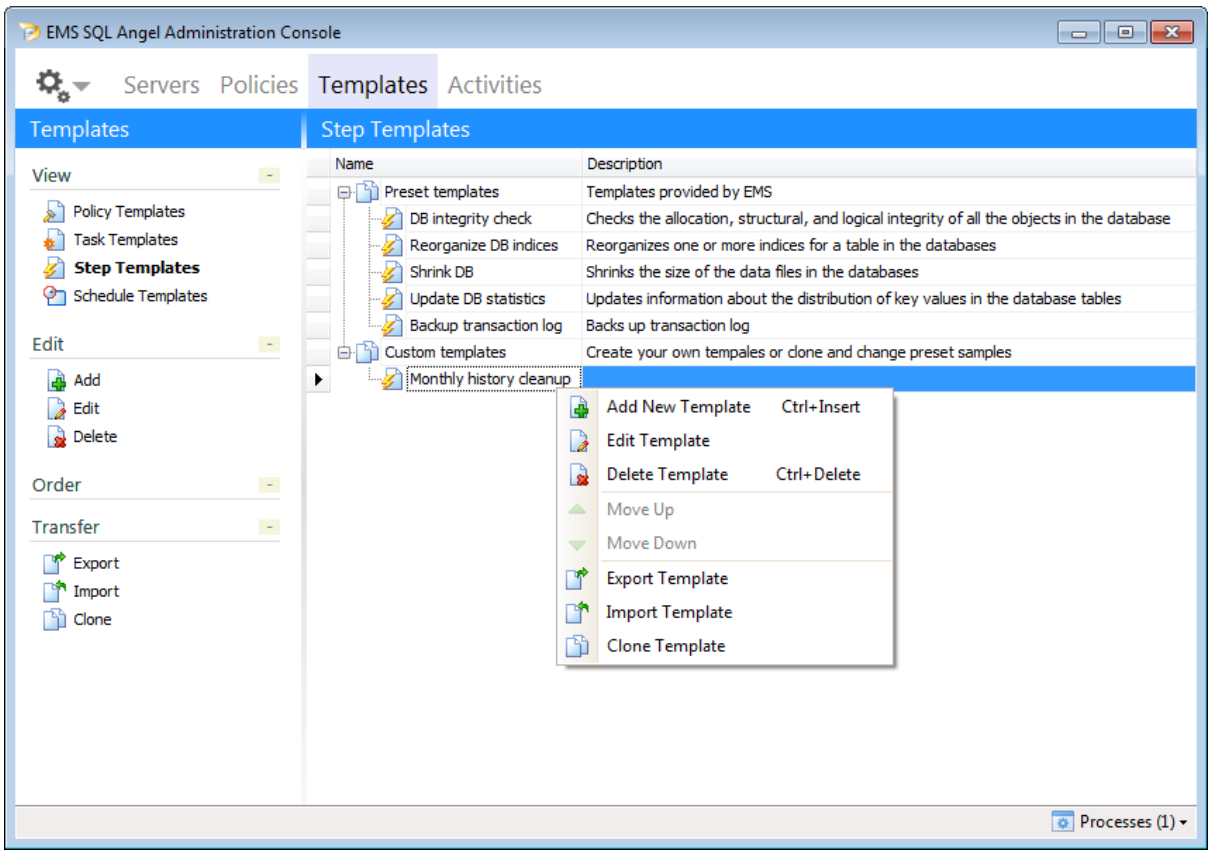
5.3 Step templates

The **Step Templates** section allows you to manage Step Templates.



You can manage step templates using the buttons on the Toolbars or popup menu.
Add New Template *(Ctrl+Insert)* - launches the wizard for creating a new step template
Edit Template - opens the step template editor
Delete Template *(Ctrl+Delete)* - removes the template
Export Template
Import Template
Clone Template - create a copy of the selected template

How to create a step based on the template:

When you are prompted to create a step on policy creation or task creation click the **Create Step from Template** button and select the template or several templates at once from the list.

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See also:
Policy templates
Task templates
Schedule template

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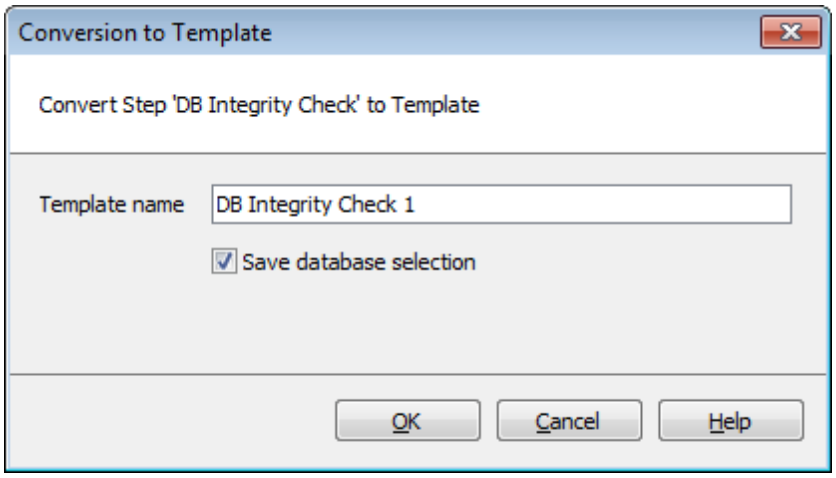
5.3.1 Creating template from step

If you already have a configured maintenance action included in a policy you can create a template on its basis which can be later used for creating a new step. All parameters that have been defined during the step creation will be saved in this template.

In order to create a template based on a step open the policy it is included in and select the **Copy to Templates** step context menu item or use the corresponding button.

In the dialog appeared enter a **Template name** and define whether databases selected in the step should be saved in the template being created.



This template will be automatically added to the Step templates list.

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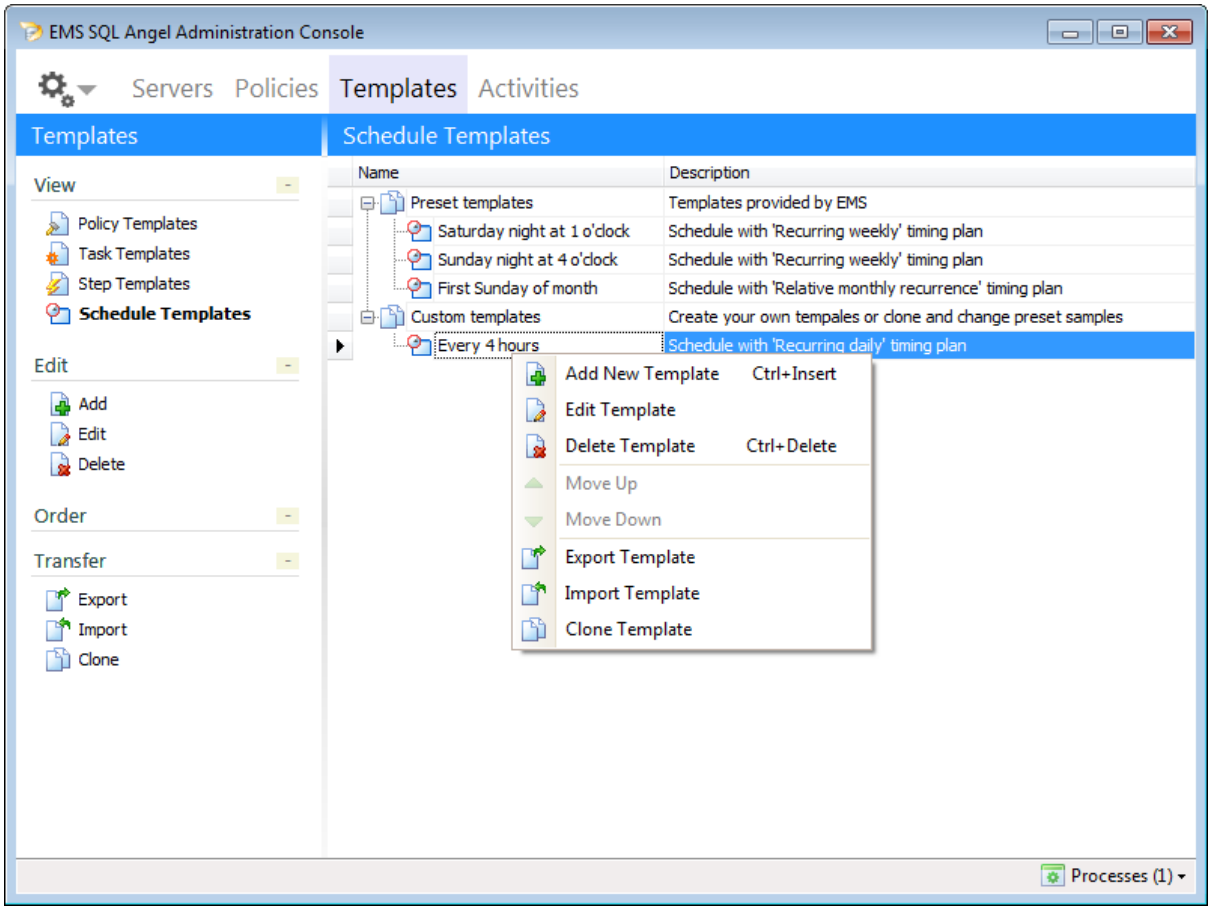
5.4 Schedule template

The **Schedule Templates** section allows you to manage Schedule Templates.
To launch policy you can use the local time on each server or the local console time.



You can manage step templates using the buttons on the Toolbars or popup menu.
Add New Template *(Ctrl+Insert)* - opens the dialog for schedule creation
Edit Template - opens the schedule editor
Delete Template *(Ctrl+Delete)* - removes the template
Export Template
Import Template
Clone Template - create a copy of the selected template

How to create a step based on the template:

When you are prompted to create a schedule on policy creation or task creation click the **Create Schedule from Template** button and select the template or several templates at once from the list.

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See also:
Policy templates
Task templates
Step templates

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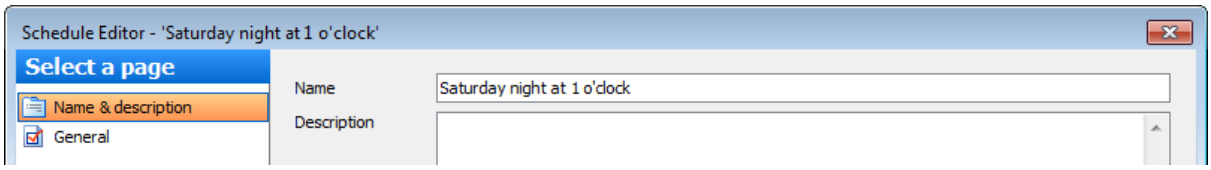
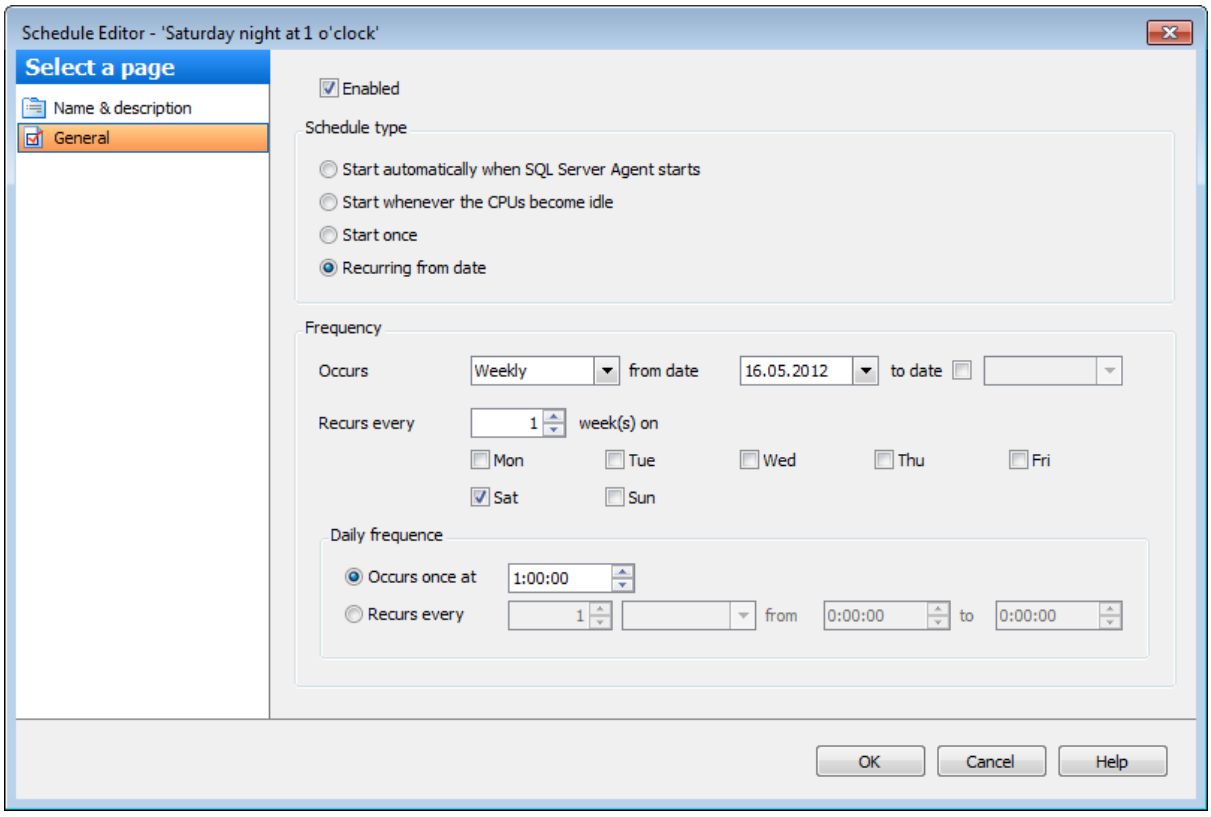
5.4.1 Schedule editor

This dialog allows you to create/edit schedule(s).

At the **Name and Description** tab set the name of the schedule and its description.



At the **General** tab of the editor set parameters for the schedule.



Enabled
This option indicates whether schedule is active or not.

Schedule type
This section allows you to define schedule type.

Start automatically when SQL Server Agent starts
This option indicates that tasks associated with this schedule will be launched when SQL Server Agent is started. Select this option to launch tasks associated with this schedule when SQL Server Agent is started.

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Start whenever the CPUs become idle
Use this option to start tasks associated with this schedule whenever CPUs become idle. This option indicates that tasks associated with the schedule will be launched whenever CPUs become idle.

Start once
This option can be used when a single task performance should be scheduled.

Recurring from date
Select this option if recurring task performance needed.

Frequency
Restrict task execution start and finish date in **Occurs** *(Daily, Weekly, Monthly)* **from date to date** fields and set its interval of recurrence at **Recurs every** *N* **days.**

Daily frequency
Set exact time at **Occurs once** or interval at **Recurs every ... from ... to ...** for the schedule.

NB: When creating the policy you can specify whether local Console or server time will be used for execution.

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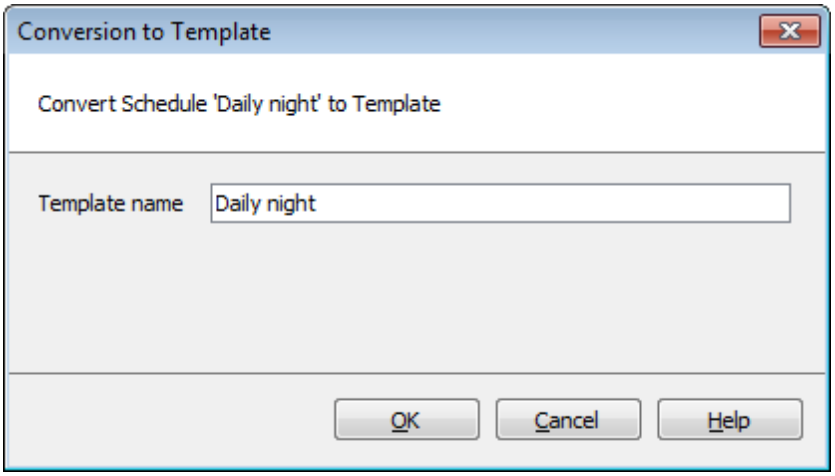
5.4.2 Creating schedule from template

If you already have a configured schedule included in a policy you can create a template on its basis which can be later used for creating a new schedule. All parameters that have been defined during the schedule creation will be saved in this template.

In order to create a template based on a schedule open the policy this schedule is included in and select the **Copy to Templates** schedule context menu item or use the corresponding button.

In the dialog appeared enter a **Template name** for the template being created.



This template will be automatically added to the Schedule templates list.

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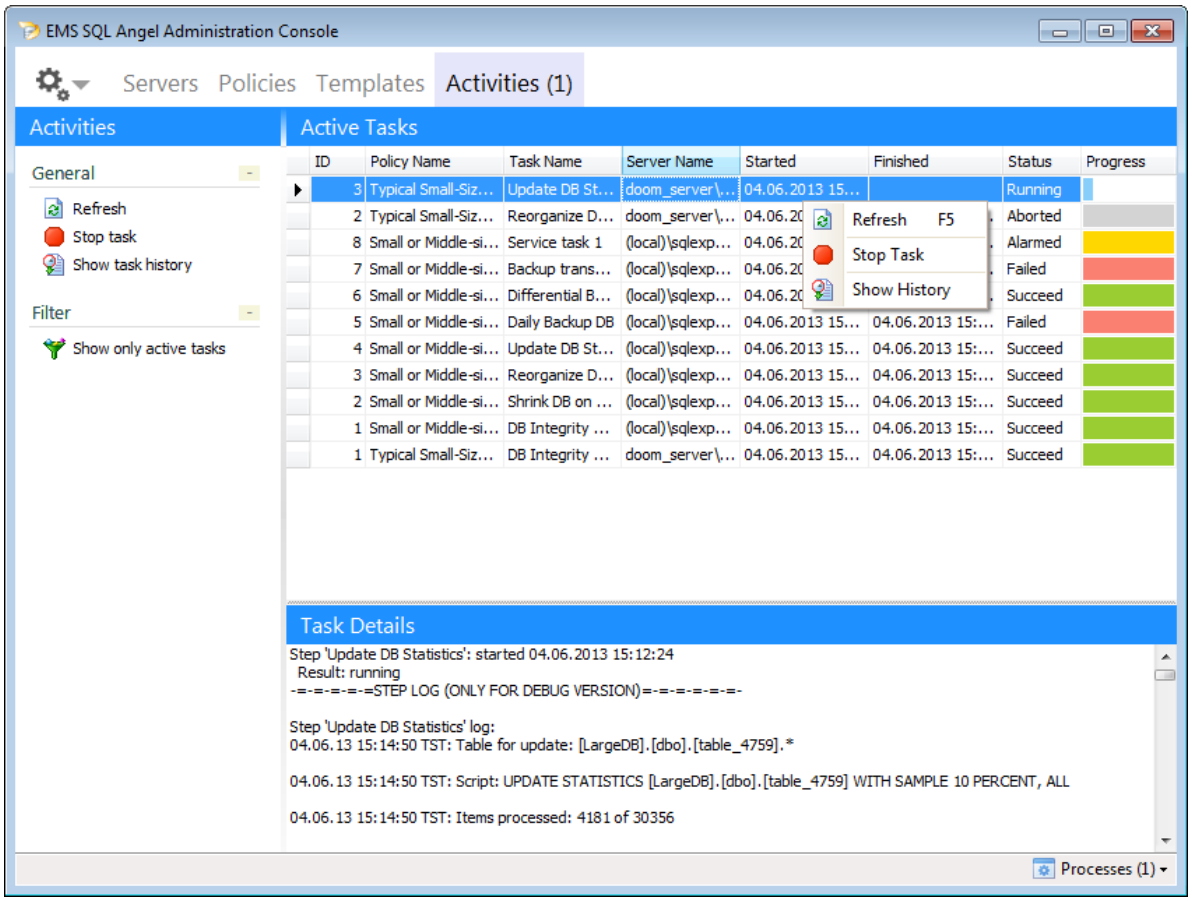
Part

6 Activities

At this tab you can view all processes initiated by EMS SQL Angel: Policies and Quick Maintenance Actions.

The result status of the task execution is displayed in the **Status** column.
The same information concerning tasks execution can be retrieved from the Server History viewer.
To see more detailed log refer to the **Task Details** section below. You can create a detailed bugreport by using the **Copy As Bugreport** context menu item. After the bugreport is generated you can paste it to any text editor.
The launch of policies created from other instances of the program is also displayed at this tab; such policies are displayed as *Unregistered* in *Policy Name* column.



Refresh
Refreshes the Activities tab. You can also use *F5* key for this action.

Stop task
Interrupts task execution.

Show task history
Opens the Server History viewer for the selected instance.

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Show all tasks \ Show only active tasks
Toggles between displaying all tasks performed within 24 hours and tasks that are being executed at the moment.

See also:
Getting Started
Servers
Policies
Templates
Maintenance Actions
Options

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Part

7 Maintenance Actions

Step in SQL Angel is a basic component of server maintenance. It sets the maintenance action to be performed over the database(s) and is used in Tasks and Policies.

Steps can be run separately for a single database\server for performing immediate maintenance operation. Steps can be included into Polices for scheduled performing.

Creating Steps
Editing Existing Steps

Note: To run the immediate maintenance action use the **Quick Maintenance Action** item from the database\server popup menu.

- Backup Database
- Restore Database
- Execute SQL Server Agent job
- Executing T-SQL statement
- History Cleanup
- Database Integrity Check
- Reorganize Indices
- Shrink Database
- Update Statistics
- Database Parameters Logger
- Maintenance Cleanup
- Transaction Log Shipping

See also:
Getting Started
Servers
Policies
Templates
Activities
Options

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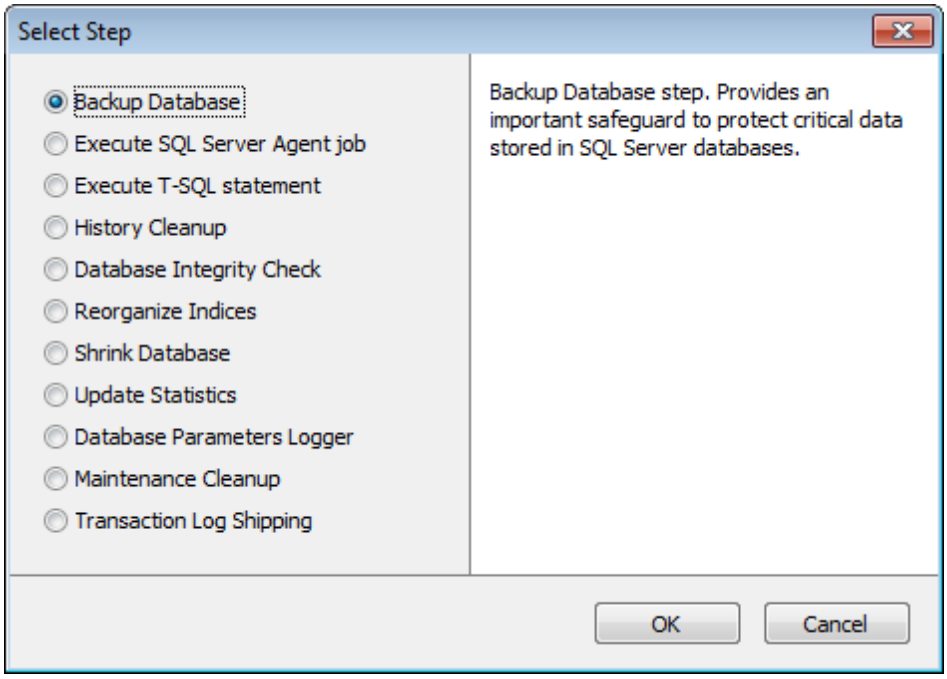
7.1 Creating Steps

Step in EMS SQL Angel is a basic component of server maintenance:

- Backup Database
- Restore Database
- Execute SQL Server Agent job
- Executing T-SQL statement
- History Cleanup
- Database Integrity Check
- Reorganize Indices
- Shrink Database
- Update Statistics
- Database Parameters Logger
- Maintenance Cleanup
- Transaction Log Shipping

To perform *immediate* Step execution use **Quick Maintenance Actions | <Step name>** popup menu item in the Servers tab.



Step should be included into Policy for scheduled execution. To add a Step to Policy you need to specify the Step at Step 2 of the Policy creation wizard at the Policies tab.

To create a Step Template or add a Step to the Policy or Task template go to the Templates tab.

See also:
Editing Steps

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7.1.1 Backup Database

Backup Database step allows you to make a backup copy of one or several databases and transaction log.

To launch the backup job *immediately* select **Quick Maintenance Actions | Backup Database** popup menu item at the Servers tab.

To perform *scheduled backup* on a regular basis you need to include this task into Policy:
1. At the Step 2 of the Create Policy wizard click **Create new step** button and select **Backup Database step** type.
2. Also, you can create a new Step Template for further use selecting **Backup Database step** type at the Templates tab.

Note: To restore a database from backup use Restore Database wizard.

Steps of the Backup Database wizard:
Naming template
Selecting database provider
Selecting database
Defining SQL Angel settings
Setting backup options
Setting file options
Specifying backup verifying options
Performing operation

See also:
Restore Database
Execute SQL Server Agent job
Execute T-SQL statement
History Cleanup
Database Integrity Check
Reorganize Indices
Shrink Database
Update Statistics
Database Parameters Logger
Maintenance Cleanup
Transaction Log Shipping

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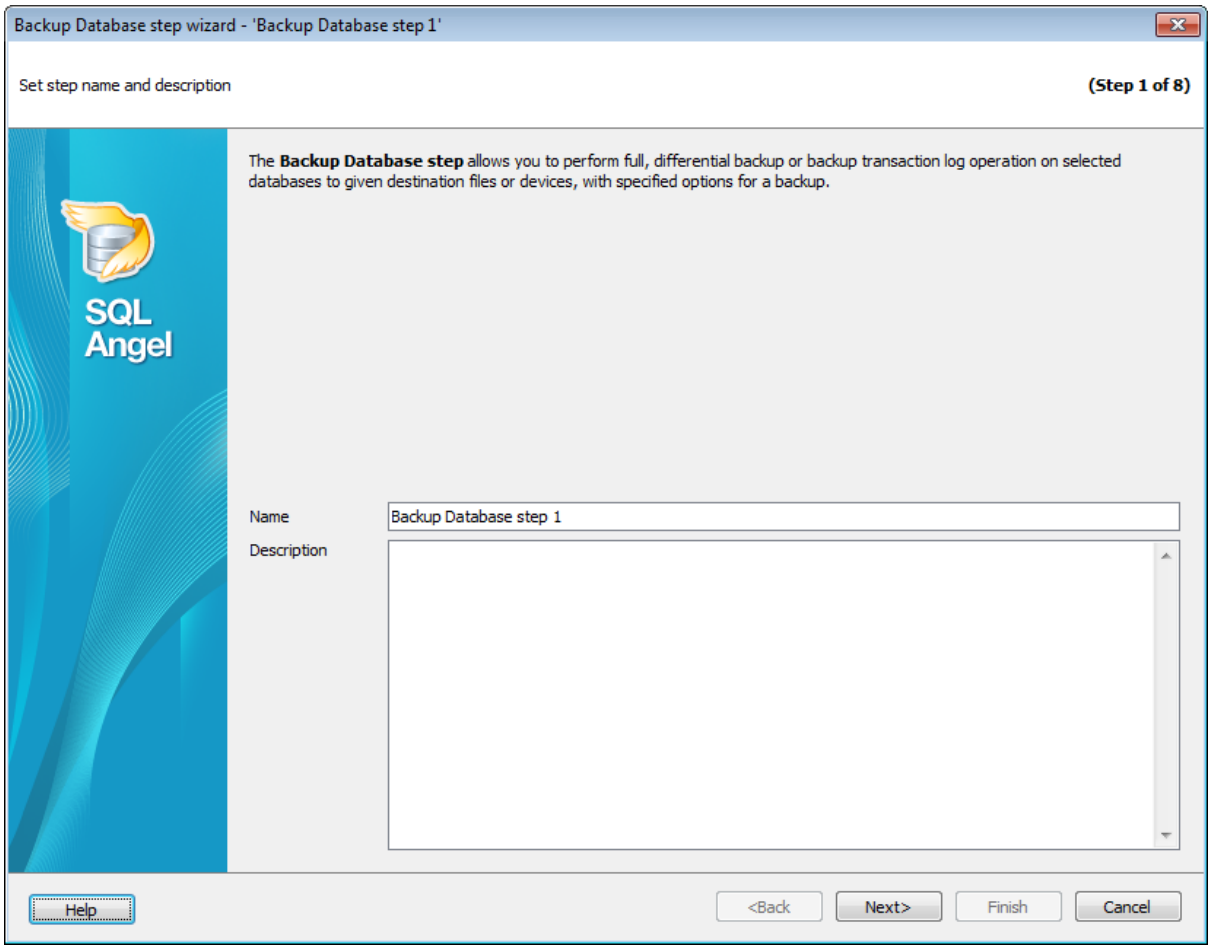
7.1.1.1 Naming step

You can name the step using the **Name** field. The **Description** field can be used to define brief info for the created step.


Backup Database step wizard - 'Backup Database step 1'
Set step name and description
(Step 1 of 8)
SQL Angel
The Backup Database step allows you to perform full, differential backup or backup transaction log operation on selected databases to given destination files or devices, with specified options for a backup.
Name
Backup Database step 1
Description
Help
<Back
Next>
Finish
Cancel

This step is skipped for Quick Maintenance Actions.

Next step >>

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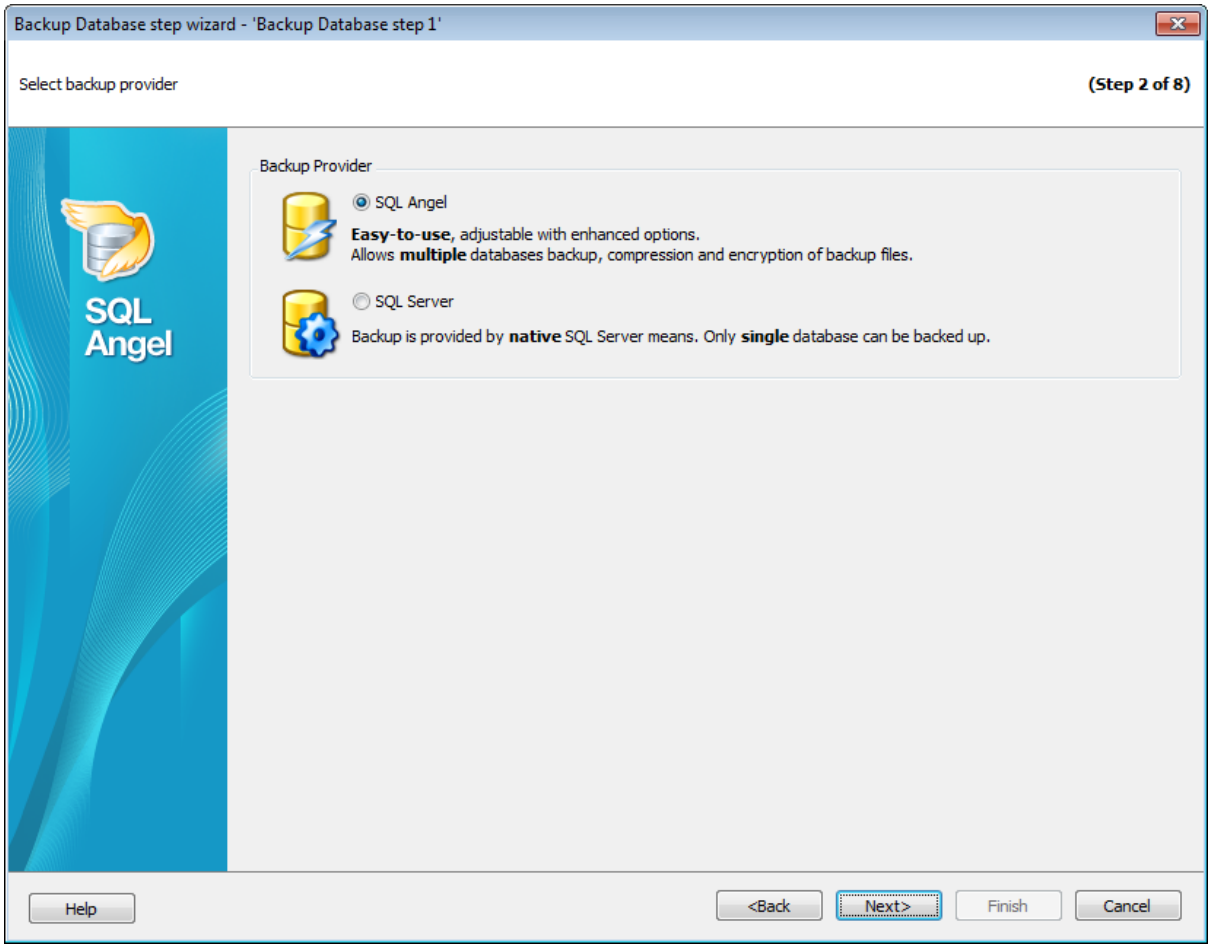
7.1.1.2 Selecting database provider

Select the backup provider at this step.


Backup Database step wizard - 'Backup Database step 1'
Select backup provider
(Step 2 of 8)
SQL Angel
Backup Provider
SQL Angel
Easy-to-use, adjustable with enhanced options.
Allows multiple databases backup, compression and encryption of backup files.
SQL Server
Backup is provided by native SQL Server means. Only single database can be backed up.
Help
<Back
Next>
Finish
Cancel

Use **SQL Angel** provider if you need to backup multiple databases with advanced options. This kind of backup is quicker and creates compressed backup files. The files created with SQL Angel provider cannot be restored using standard server tools; you need either use SQL Angel restore or convert the backup file to SQL Server type.

Use **SQL Server** provider to perform backup of a single database using native SQL Server tools.

<< Previous step Next step >>

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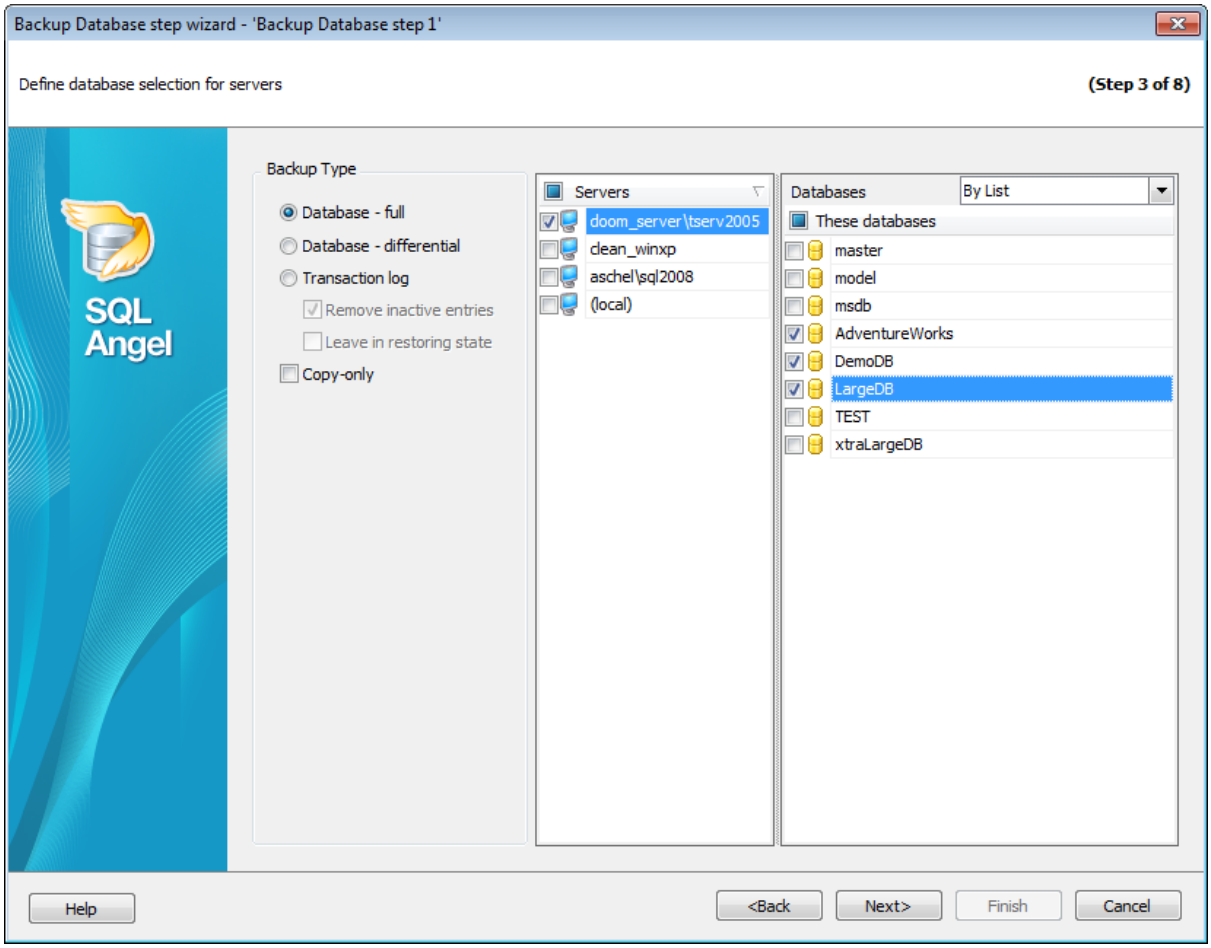
7.1.1.3 Selecting database

Use this step of the wizard to select database(s) for backup operation.



Backup Type

Use this parameter to define the backup type:
Database - full (a full database backup which backs up the entire database including the transaction log)
Database - differential (a differential backup which only records the changes made to the data in the database after the last full database backup)
Transaction log (a sequence of log backups provided for a continuous chain of transaction information to support recovery forward from database, differential, or file backups)

Set **Remove inactive entries** option on to truncate the live transaction log when you create a backup.
Set **Leave in restoring state** on to leave the database in restoring state to be unavailable to users until it is completely restored.
Set **Copy-only** option to create a copy-only backup which is a SQL Server backup that is independent of the sequence of conventional SQL Server backups.

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Servers
Select the **servers** to run the operation on. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.
Note: Selecting servers is not available in Template mode.

Databases
If SQL Angel provider is used, you can select multiple databases, in case of SQL Server backup only one database can be specified.

All
Use this option to select both: system and user databases.

All system
This option indicates that only system databases should be backed up.

All user
Select this option to back up user databases only.

By mask
This option allows defining database selection by mask. Use ***** for a set of any characters and **?** for any single character in the database name.

By list
This option allows you to select databases manually.

If you are creating a step in a policy template then you are able to enter databases manually.

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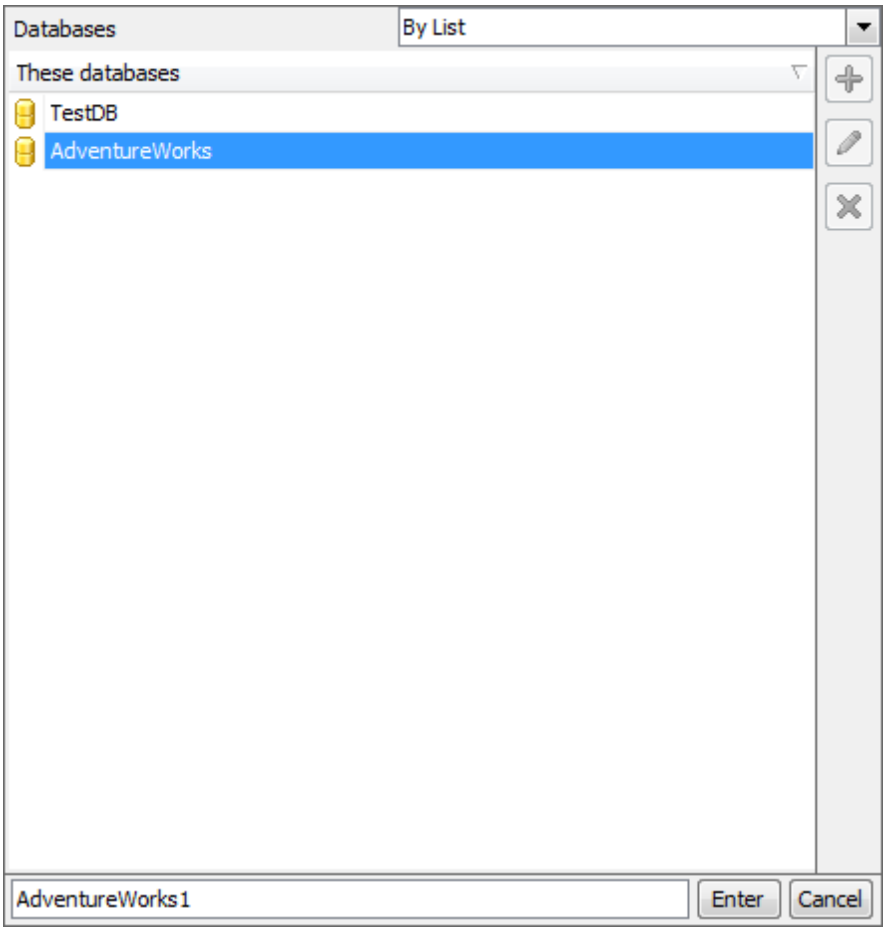

Use the button or *Ins* key to define database name. After you click the *Enter* button the database will be added to the list.

Any database from the list can be edited or deleted.

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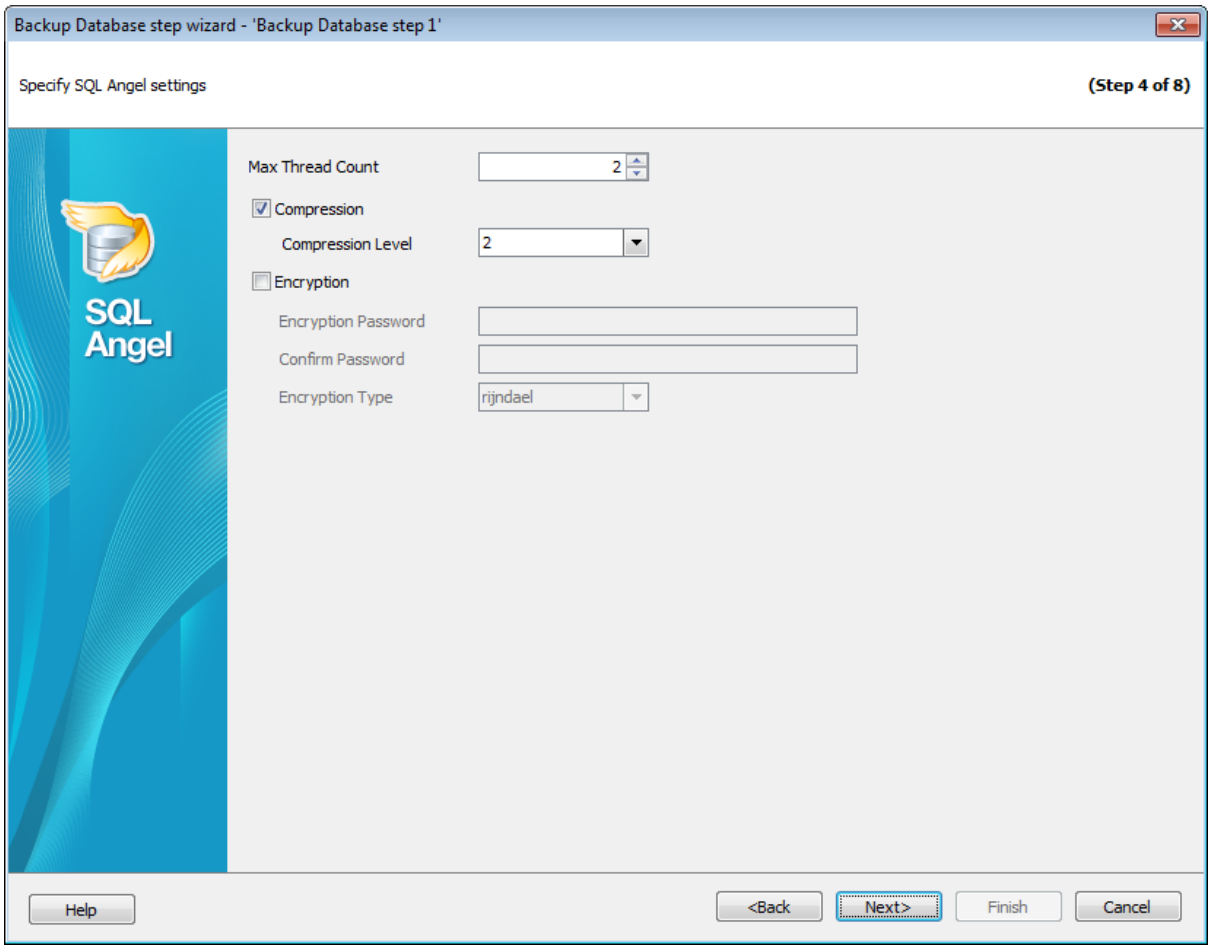
7.1.1.4 Defining SQL Angel settings

Use this step of the wizard to define SQL Angel backup settings. This step is available only on creating back up by means of SQL Angel.



Max Thread Count
Indicates the number of threads to be used for backup operation. Increase the number of threads for faster speed. If you are using a multi-processor system, increasing this value can fasten backup speed. You are recommended to set one thread fewer than the number of processors.

Compression
Enable the option to compress backup.

Compression Level
Defines backup file compression level. Use '1' for best speed and '4' for best compression.

Encryption
Enable the option to encrypt backup.

Encryption Password
Set password that is used for backup encryption.

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Confirm password
Confirm the password specified as an encryption password above.

Encryption Type
Select the encryption algorithm.

<< Previous step Next step >>

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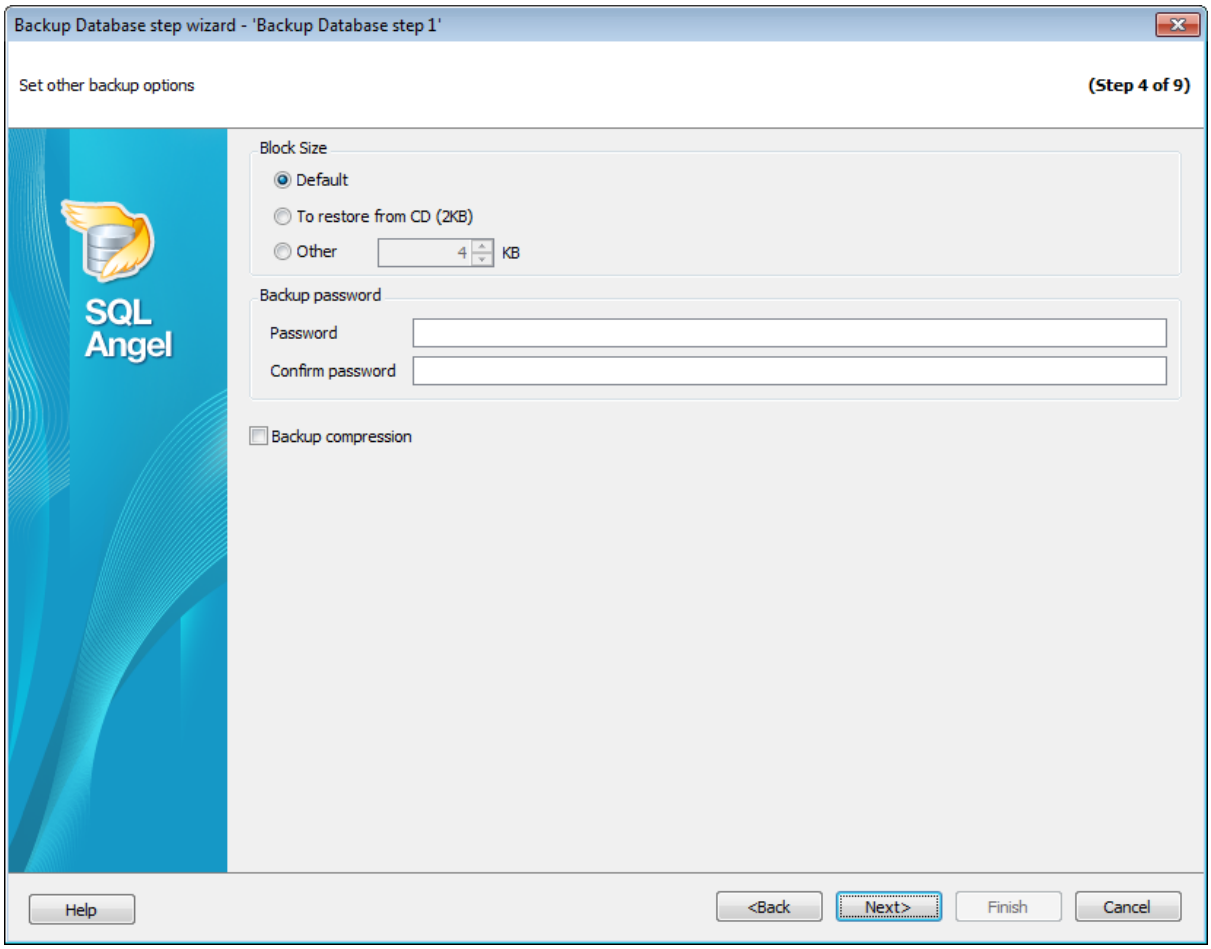
7.1.1.5 Setting backup options

At this step you can define backup options. This step is available only on creating back up by means of SQL Server.



Block size

Define the size of a data block in bytes. The supported sizes are 512, 1024, 2048, 4096, 8192, 16384, 32768, and 65536 (64 KB) bytes. Possible values are: *Default*, *To restore from CD* (2 KB), *Other* (i.e. you can specify an arbitrary value).

If necessary, you can set a **Password** for the backup: enter the password twice in the respective edit fields.

Backup compression
This option enables backup compression overriding the server-level default (for SQL Server 2008 Enterprise and later versions).

<< Previous step Next step >>

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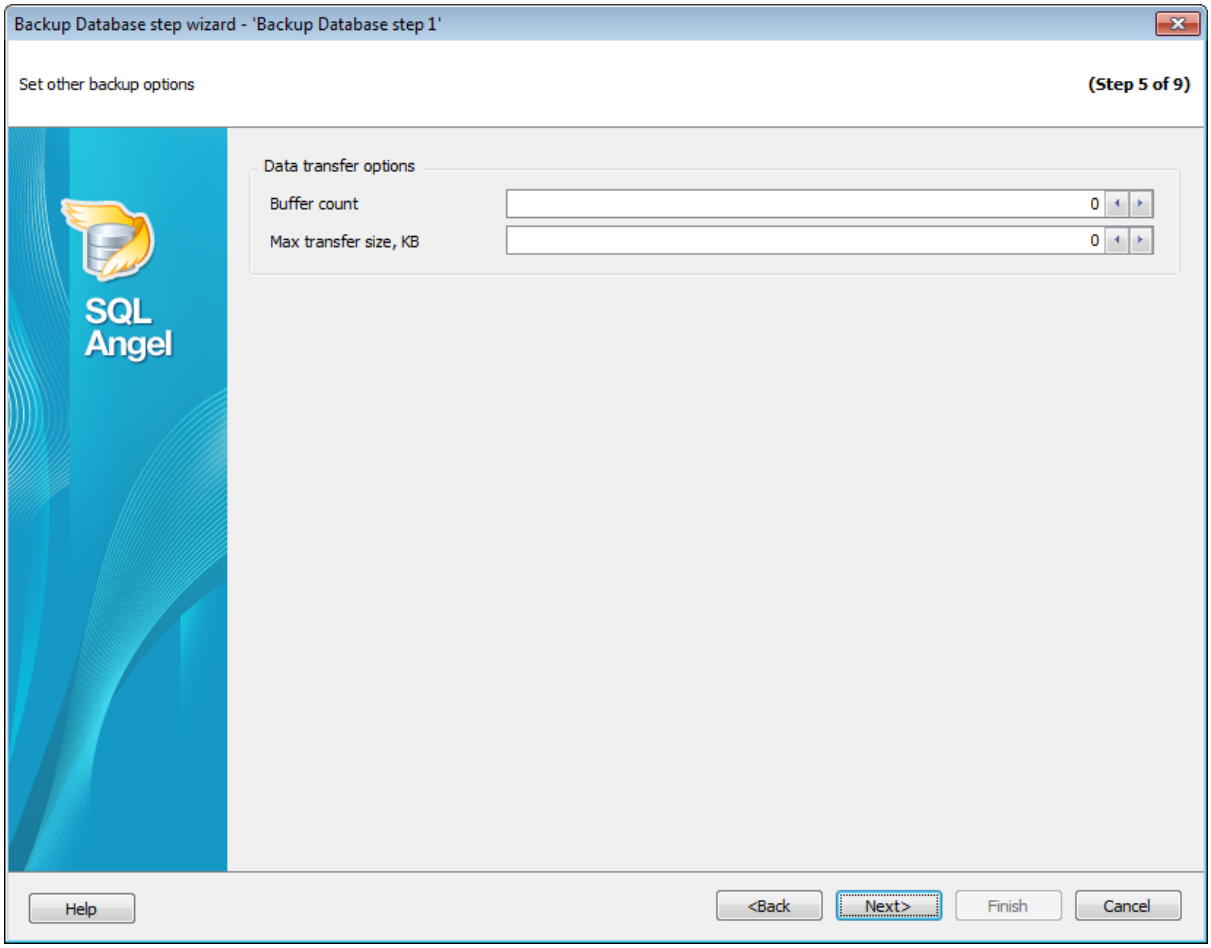
7.1.1.6 SQL Server

7.1.1.6.1 Setting backup options for incremental backup

For SQL Server backups the additional step of the wizard becomes available:



Buffer count
Specifies the total number of I/O buffers to be used for the backup operation.

Max transfer size, KB
Specifies the largest unit of transfer in bytes to be used between SQL Server and the backup media.

Note: If specified value is 0 then the default value is used.

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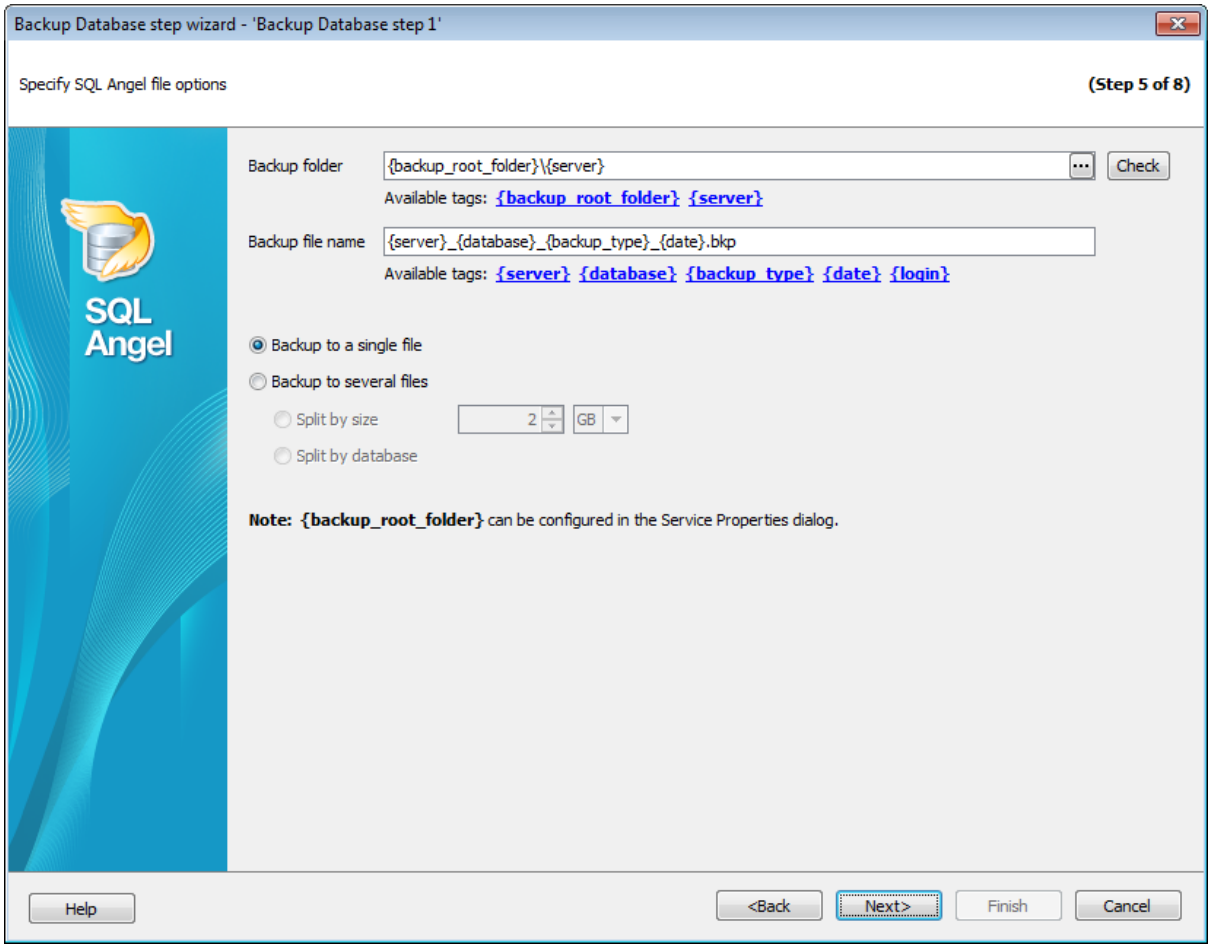
7.1.1.7 Setting file options

Use this step to define backup file options.



Backup folder
Specify backup destination directory. For your convenience *{backup_root_folder}* and *{server}* tags are provided. The directory which the *{backup_root_folder}* tag stands for is configured in the Service Properties dialog.
You can check availability of the defined folder by clicking the corresponding button.
Note: The **Check** button is available only if backup is configured on a single server.

Backup file name
Define backup file name. Type backup file name manually or form it using variables. For your convenience *{server}*, *{database}*, *{backup_type}*, *{date}* and *{login}* tags are provided. If you want to upload backup file to an external storage it is recommended to use the *{date}* tag for the backup file to have a unique name.

Note: To insert a tag in the field simply click it in the list of **Available tags**.

Backup to a single file
Select this option to backup all selected databases to a single file.

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Backup to several files
This option indicates that backup should be split into several files. Splitting the backup can in some cases speed up the backup process.

Split by size
Indicates that backup file will be split to volumes of the specified size.

Split by database
Indicates that each database will be backed up into a separate file.

<< Previous step Next step >>

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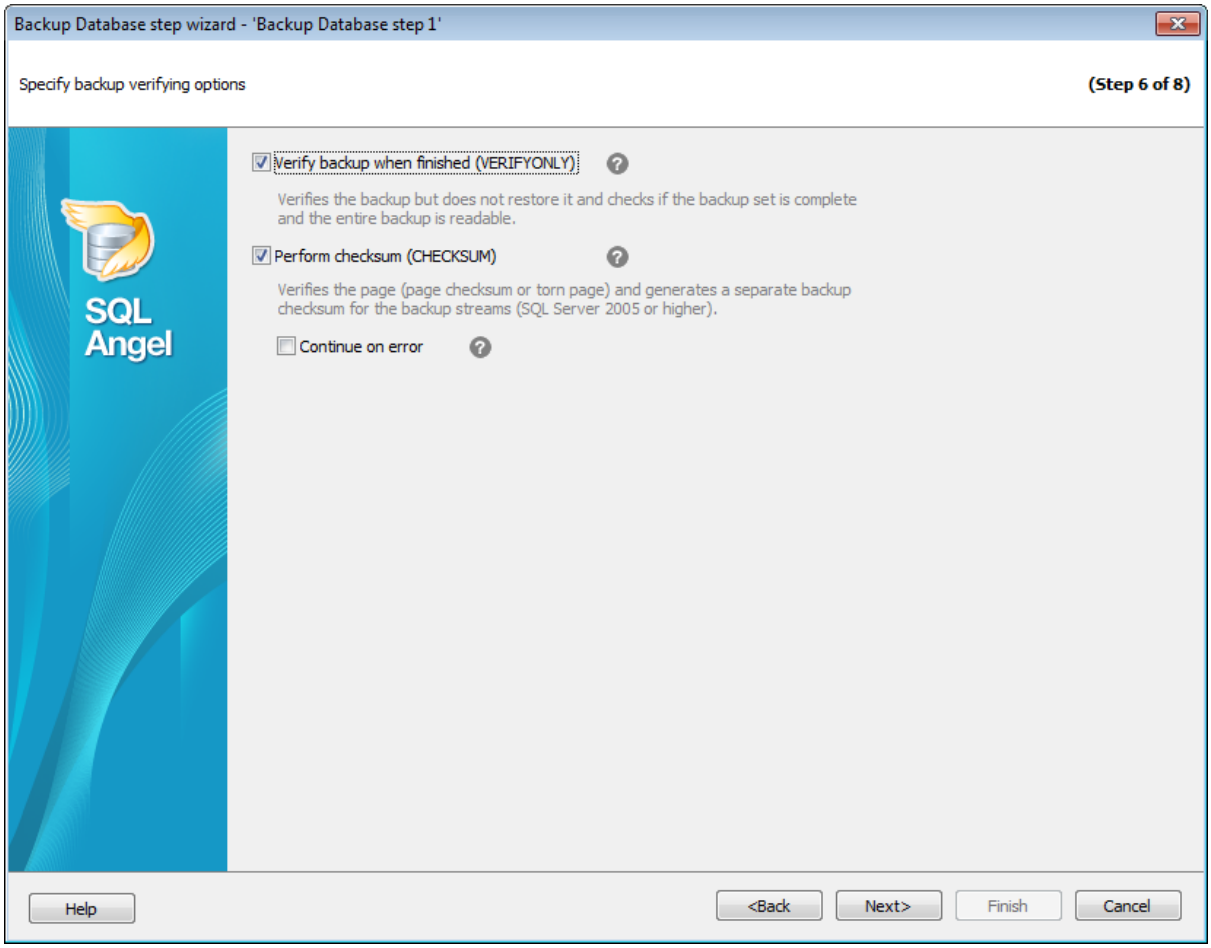
7.1.1.8 Specifying backup verifying options

Use this step to configure backup verifying options.


Backup Database step wizard - 'Backup Database step 1'
Specify backup verifying options
(Step 6 of 8)
SQL Angel
Verify backup when finished (VERIFYONLY)
Verifies the backup but does not restore it and checks if the backup set is complete and the entire backup is readable.
Perform checksum (CHECKSUM)
Verifies the page (page checksum or torn page) and generates a separate backup checksum for the backup streams (SQL Server 2005 or higher).
Continue on error
Help
<Back
Next>
Finish
Cancel

Verify backup when finished (VERIFYONLY)
Check this option to enable backup verification. Verifying a backup checks that the backup is intact physically, to ensure that all the files in the backup are readable and can be restored, and that you can restore your backup in the event you need to use it.

Perform checksum before writing to media (CHECKSUM)
This option enables/disables checksum verification before writing to the backup media. Before writing a page to the backup media, BACKUP verifies the page, if this information is presented on the page. BACKUP generates a separate backup checksum for the backup streams. Restore operations can optionally use the backup checksum to validate that the backup is not corrupted. The backup checksum can optionally be used at restore time. Using backup checksums may affect workload and backup throughput.

Continue on error
This option determines whether the backup operation will be stopped or forced to continue despite encountering errors such as invalid checksums or torn pages.

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<< Previous step

Next step >>

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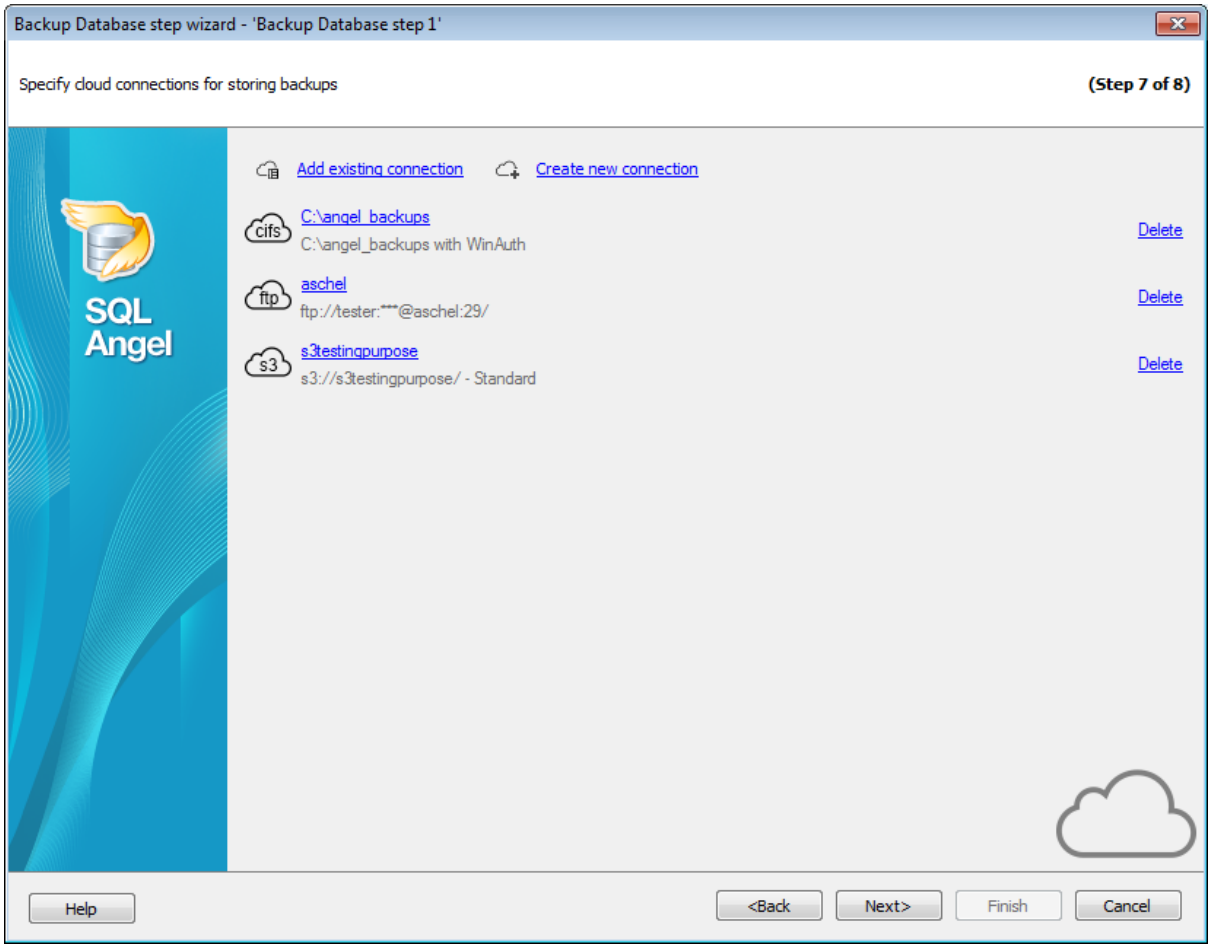
7.1.1.9 Specifying cloud connections

Use this step to set cloud connections for storing backups. You can add unlimited number of remote and local storage engines. Copies of backup files will be uploaded to all of the specified storages.
The connections to the following storages are supported:

- SMB/CIFS
- FTP
- Amazon S3 Cloud
- Secure FTP



You can create a new connection or add an existing one. On adding an existing connection you will be offered to choose among connections specified in Cloud Connections tab of the Options dialog.
If you create a new connection then after specifying its properties you will be offered to save it, so this connection will be available in Cloud Connections.
To change connection parameters click on its name. Depending on connection type the relevant dialog for configuring connection settings will be opened.
Note: If the backup file with the specified name already exists in the storage then it will not be replaced and the upload will be failed.

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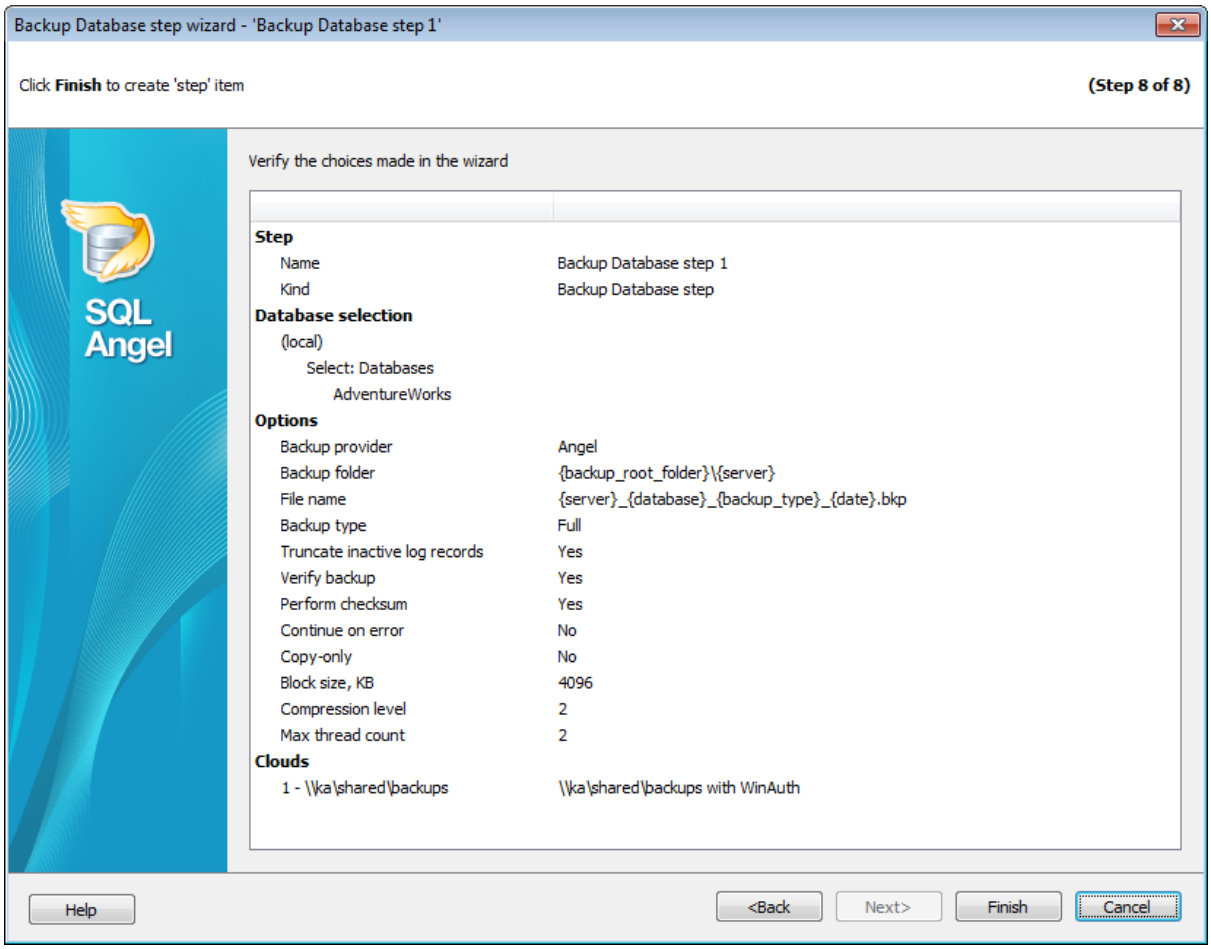
7.1.1.10 Performing operation

This step of the wizard is intended to inform you that all necessary options have been set, and you can start the operation.



After verifying the choices made in the wizard click the **Finish** button to complete the operation.

[<< Previous step]

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7.1.2 Restore Database

Restore Database Wizard allows you to perform the database restore operation on your SQL Server system. The wizard provides flexible customization and is easy-to-use.

Restore operation is used to rebuild a damaged or corrupted database that has been backed up using Backup Database Wizard. You can restore the entire database, part of a database, transaction logs.

To start the operation use the **Quick Maintenance Action | Restore Database** item of the server\database popup menu or the **Restore Database** item of the database context menu.

This wizard will guide you through the restore database process step by step.

Note: This step cannot be included into Policies. It can be only launched manually from **Quick Maintenance Actions**.

Steps of the Restore Database wizard:
Selecting available backup
Specifying the elements of backup
Defining target database parameters
Specifying restore options
Performing operation

See also:
Backup Database
Execute SQL Server Agent job
Execute T-SQL statement
History Cleanup
Database Integrity Check
Reorganize Indices
Shrink Database
Update Statistics
Database Parameters Logger
Maintenance Cleanup
Transaction Log Shipping

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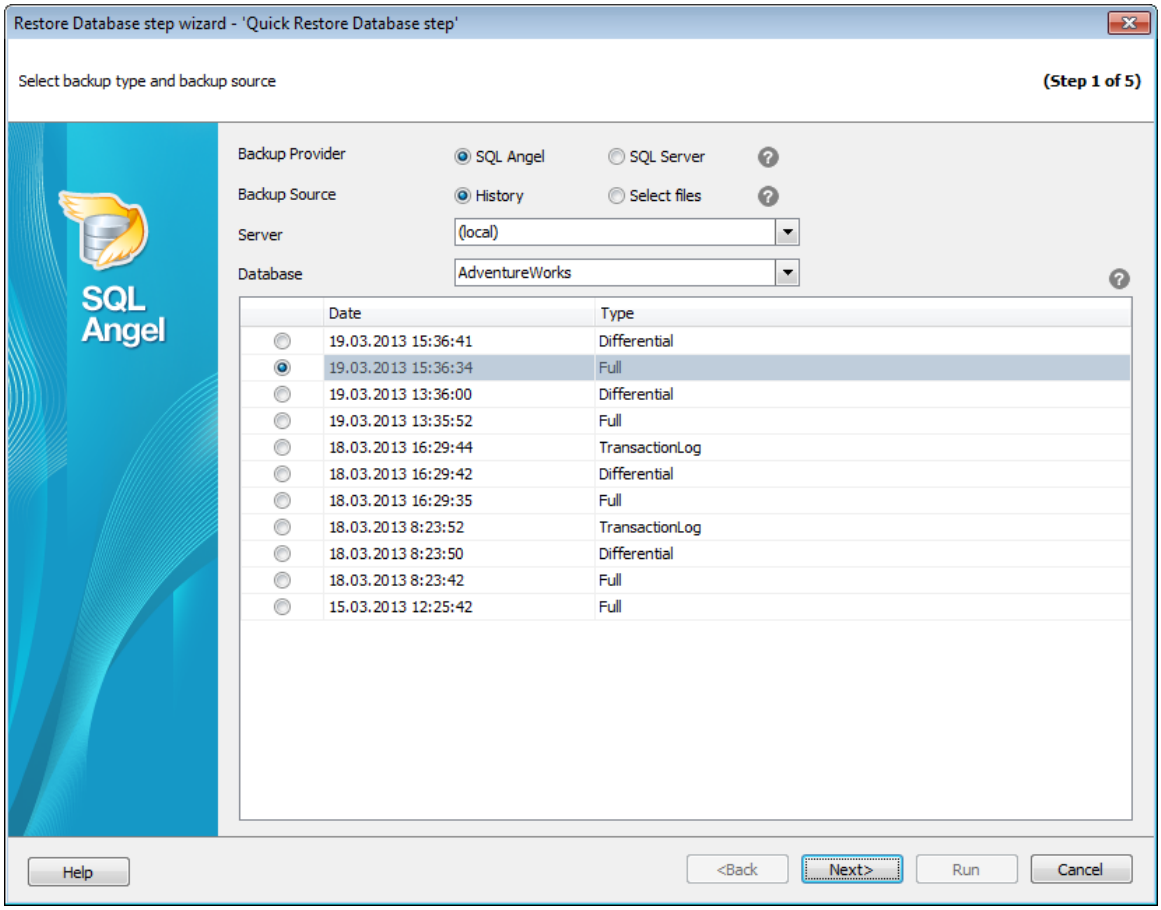
7.1.2.1 Selecting available backup

At this step you need to select the backup for database restore.



Backup provider
You need to select the provider that had been used for creating the backup. Depending on the selection the restore procedure will be performed by SQL Angel or SQL Server means.

Backup source
History - shows the list of the available database backups for the specified server and database. Only backups of corresponding provider types are displayed.
Files - allows selecting individual backup files from the server.

Server
Select the server to restore database from.

Database
This option is available for *History backup source* and contains databases available for the selected server. Choose the database you need to restore and the list of the backups available for the selected database will be displayed below. You need to select the backup to restore and proceed to the next step of the wizard.

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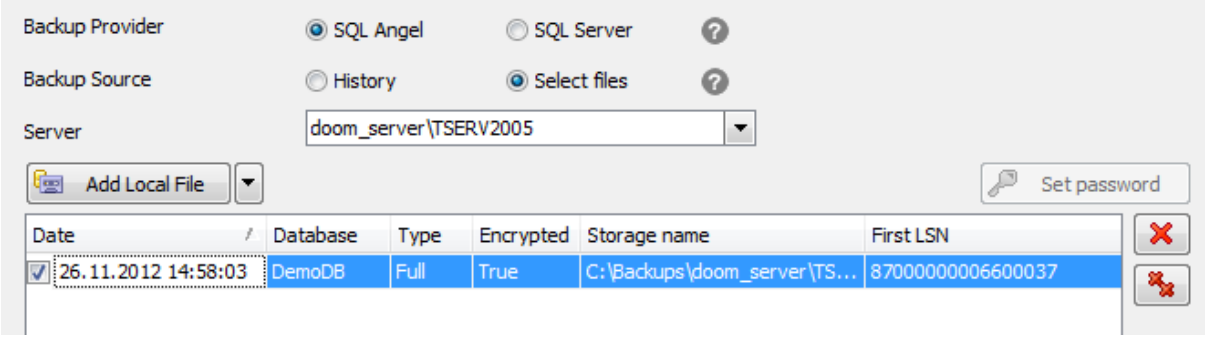
When restoring on the chosen date using the history the search of the needed for restoring full and differential backups is performed. For example, if you are restoring a transaction log then all backups will be found: starting from the full to all transaction log backups. All detected backups will be restored sequentially to ensure a full restoring.

For the *Files backup source*:



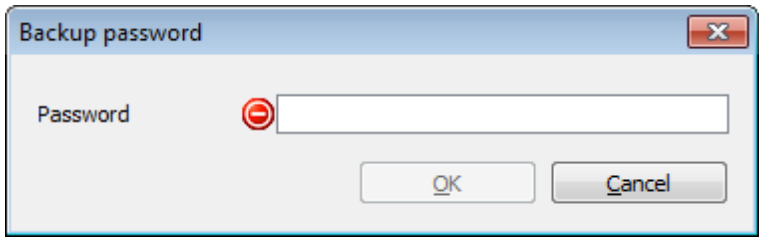
For every selected file displays additional information: *Date*, *Database*, *Type*, *Encrypted*, *First LSN*, *Storage name*, *Last LSN*, *Check Point LSN*, *Differential Base LSN*.

Add Local File/Add Network File
Click this button to search for the backup files on the local (server) or network machine. If backup consists of multiple files (this option is only available for SQL Angel type) you need to specify the first file from the chain. If the backup file includes several databases you are only allowed to select one database at a time.

Remove
Removes the selected file from the list.

Clear
Removes all files from the list.
Use and buttons to reorder selected files.

Set Password
If the chosen backup is encrypted then click the button to input the password for the backup in the opened dialog:



During the whole process the database is in the Restoring state. The last restore action

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brings the database to the Online state.

Press the **Next** button to proceed to the Specifying the elements of backup (for *History* backup source) or Defining the target database parameters (for *Files* backup source).

Next step >>

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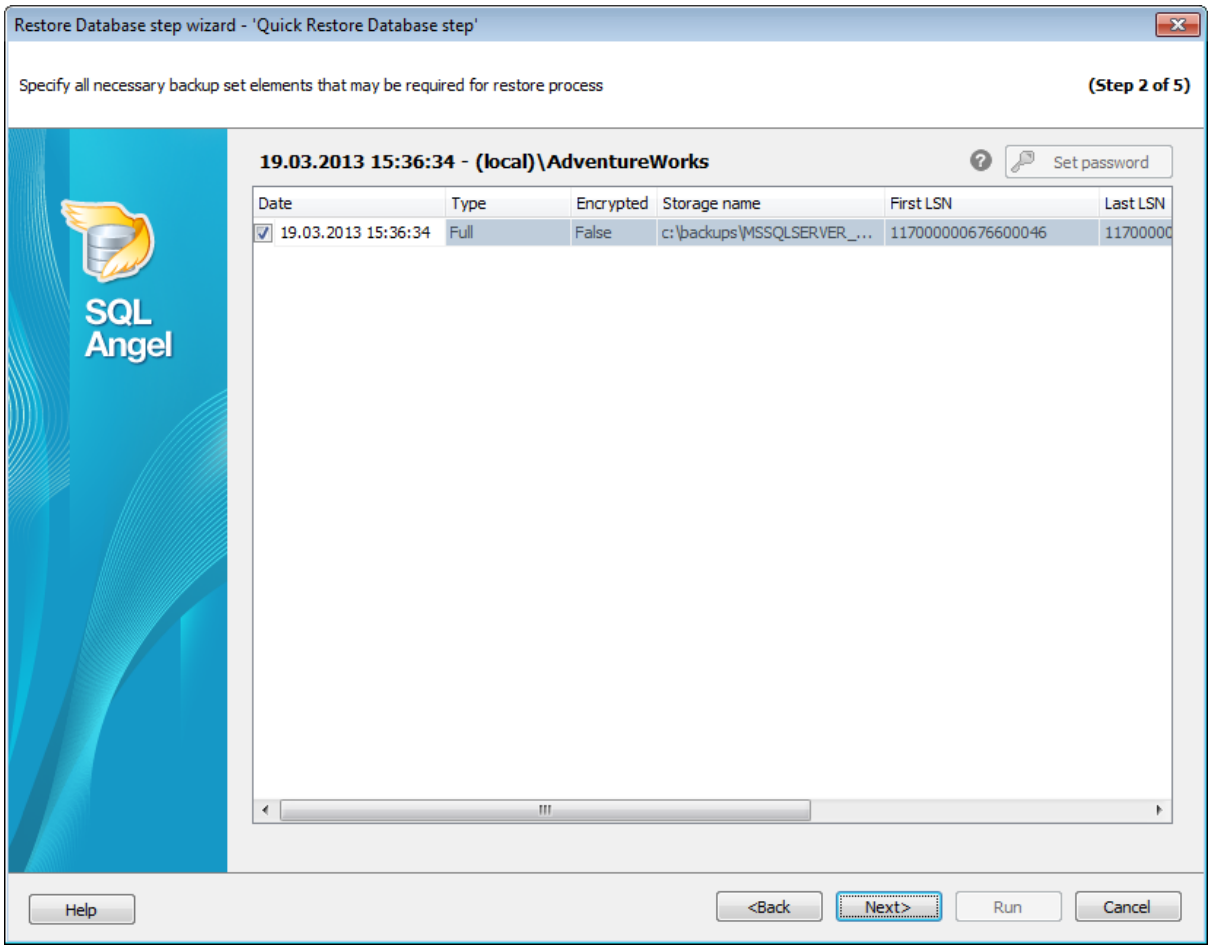
7.1.2.2 Specifying the elements of backup

This step allows you to select history that will be used to restore the database. This step is not available if *Files* has been selected as backup source at the previous step. The order is generating automatically.

Backup set parts necessary for successful database restore process should be selected carefully. Please check that all backups required for full restore are selected.

To work with encrypted backups, enter the password by pressing the **Set password** button or double-clicking the required backup.



Press the **Next** button to proceed to the Defining target database parameters step of the wizard.

<< Previous step

Next step >>

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7.1.2.3 Defining target database parameters

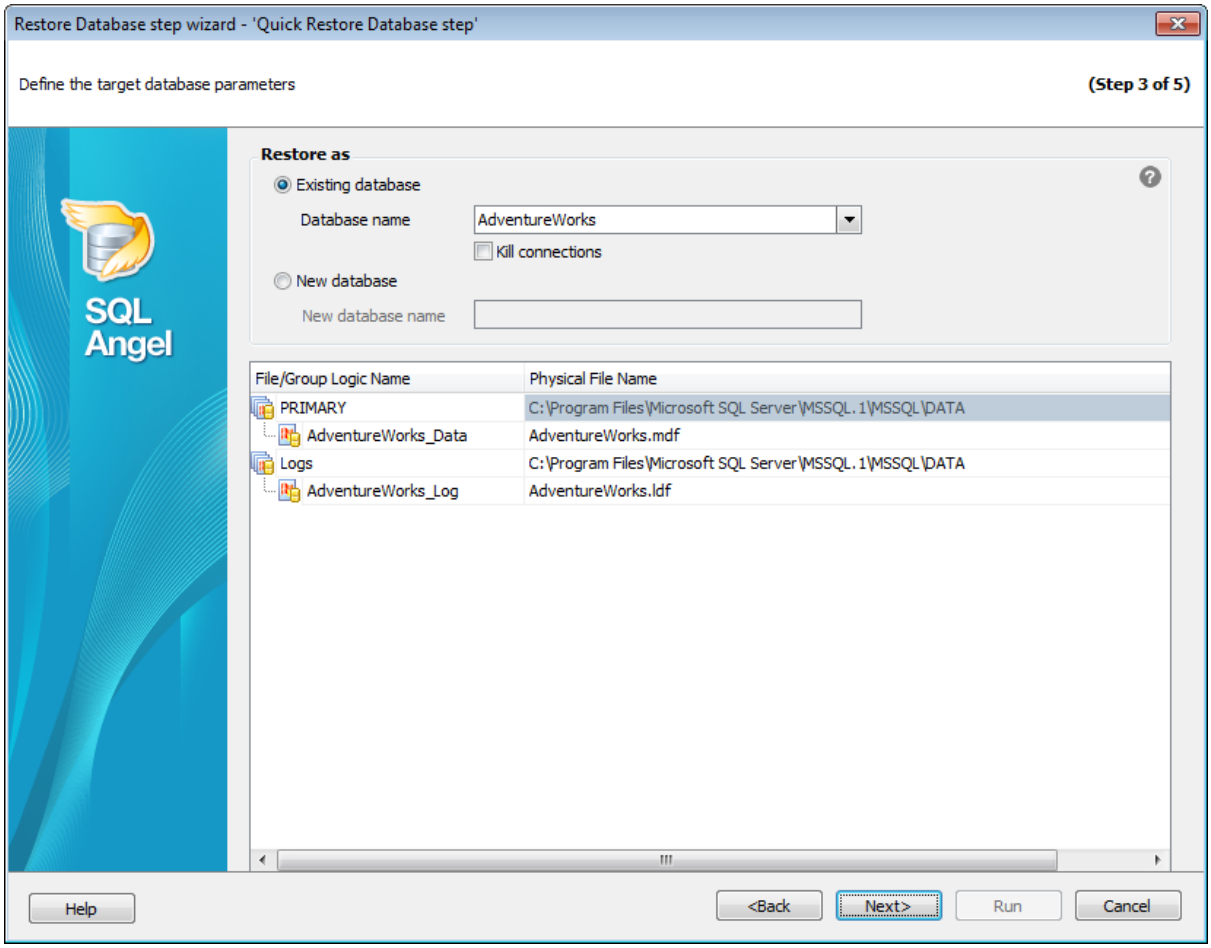
Use this step of the wizard to define the target database parameters.

Restore as
Select *Existing database* to restore to an existing database, or *New database* if you want to create a new database.

Database name
Select the database to perform restoring on from the list of all available databases on the specified host.

Kill connections
Set this option to kill all existing connections to the database before starting the restore process otherwise restore will fail if any connections exist.

If the **New database** option is selected, then database name should be specified in the corresponding field. If you are restoring a database from the *differential copy* the *New database* option is unavailable.



The grid displays logical and physical names of the files. You can rename the files and groups in the grid or change file folder in the appropriate dialog, clicking the ellipsis

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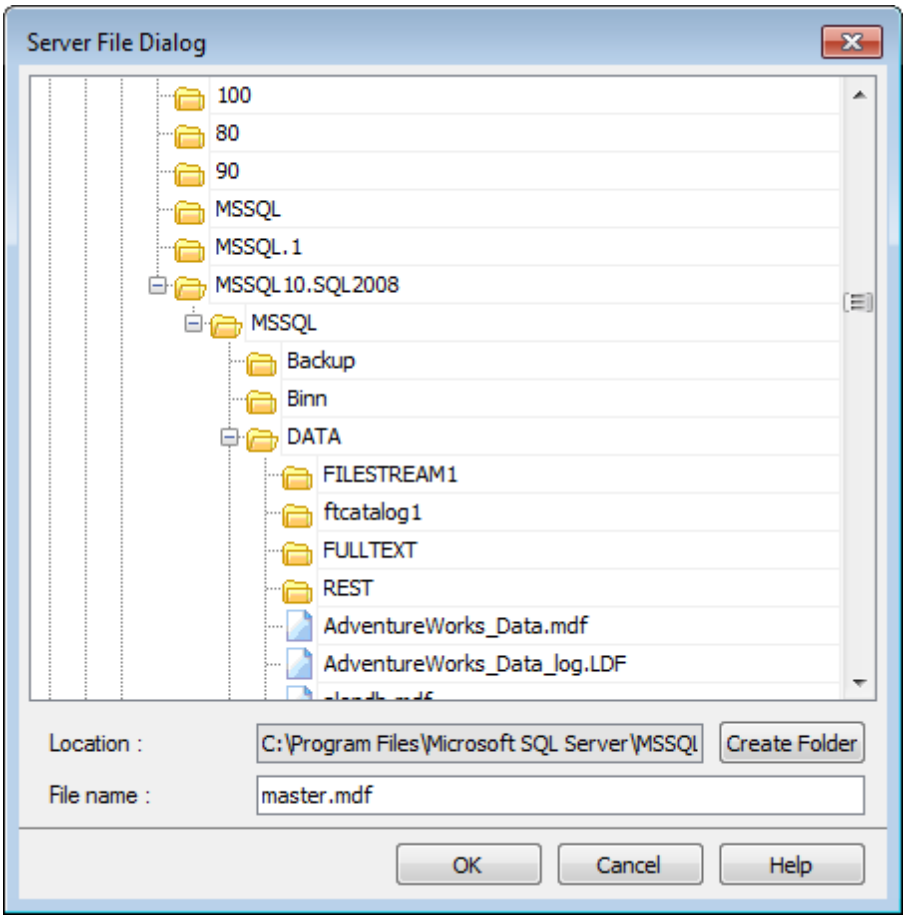
button.

Use the ellipsis button to set files for the database that is being restored.



Click the **Next** button to proceed to the Specifying restoring options step of the wizard.

<< Previous step

Next step >>

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7.1.2.4 Specifying restore options

At this step you need to set recovery options and options for transaction log restore.

Recovery options
This group of options allows you to specify the recovery options to be applied to the restore operation.

Recovery (rollbacks all uncommitted transactions)
This option specifies that the restore operation rolls back any uncommitted transactions. After the recovery process the database is ready for use.

No recovery (leaves the database in the restoring state)
This option specifies that the restore operation does not roll back any uncommitted transactions.
NB: When this option is selected, the database is not usable in this intermediate, non-recovered state.
When used with a file or filegroup restore operation, this option forces the database to remain in the restoring state after the restore operation. This is useful in either of the following situations:

- a restore script is being run and the log is always being applied;
- a sequence of file restores is used and the database is not intended to be usable between two of the restore operations.

Standby (leaves database in read-only and standby mode)
This option allows the database to be brought up for read-only access between transaction log restores and can be used with either warm standby server situations or special recovery situations in which it is useful to inspect the database between log restores.

Undo file name
Specify the undo file name, so that the recovery effects can be undone. The same undo file can be used for consecutive restores of the same database.
NB: If free disk space is exhausted on the drive containing the specified undo file name, the restore operation stops.

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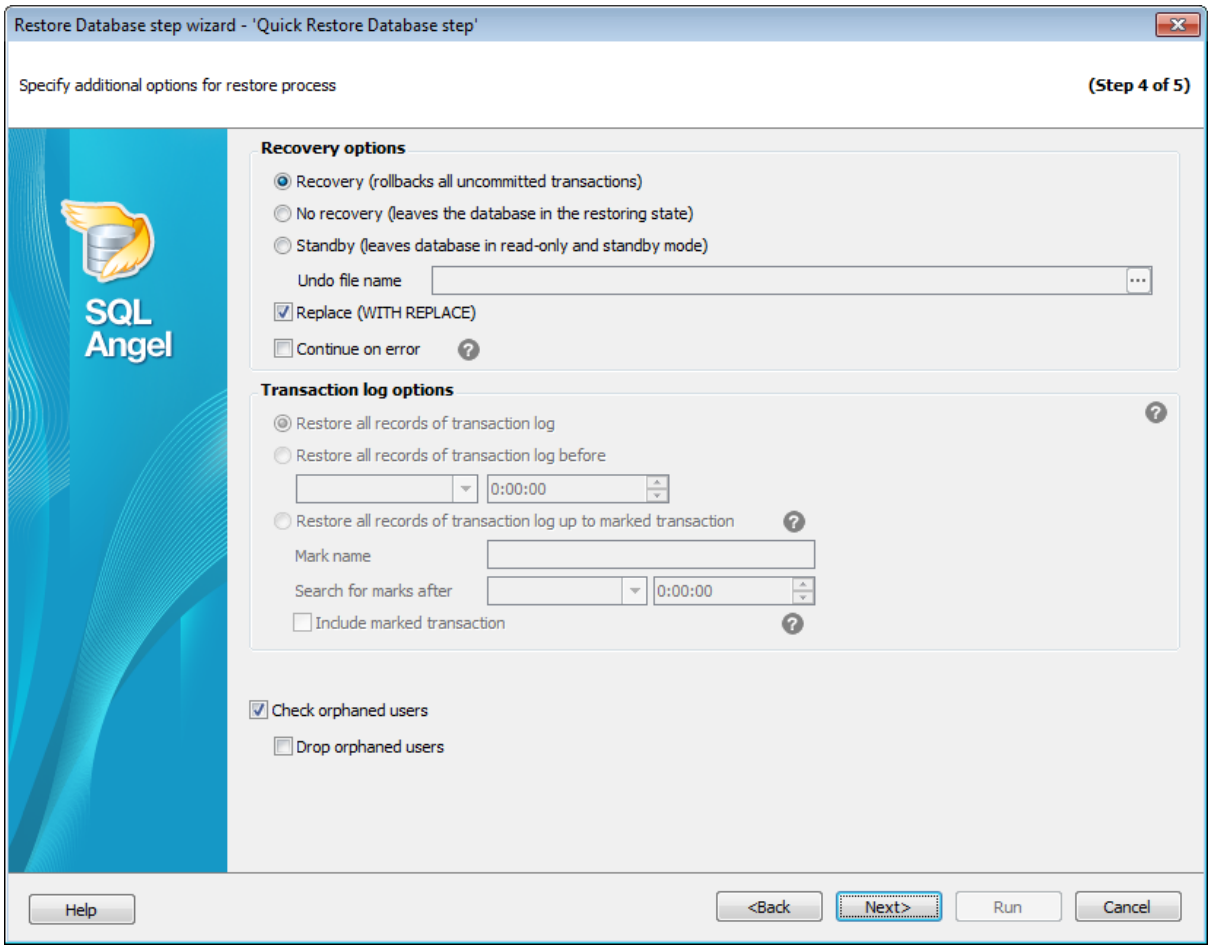
Restore Database step wizard - 'Quick Restore Database step'
Specify additional options for restore process
(Step 4 of 5)
SQL Angel
Recovery options
Recovery (rollbacks all uncommitted transactions)
No recovery (leaves the database in the restoring state)
Standby (leaves database in read-only and standby mode)
Undo file name
Replace (WITH REPLACE)
Continue on error
Transaction log options
Restore all records of transaction log
Restore all records of transaction log before
0:00:00
Restore all records of transaction log up to marked transaction
Mark name
Search for marks after
0:00:00
Include marked transaction
Check orphaned users
Drop orphaned users
Help
<Back
Next>
Run
Cancel

Replace (WITH REPLACE)
This option specifies that SQL Server database will be overwritten if it exists.

Continue on error
This option determines whether the restore operation will be stopped or forced to continue if an error occurs.

Transaction log options

This section is available only if the **Transaction log** restore type was selected at the Specifying the elements of backup step.

Restore all records of transaction log
Select this option to make a complete restore from transaction log backup.

Restore all records of transaction log before
This option indicates that database restore is based on the transaction log records added before specified date. Pick date and specify time in the fields below.

Restore all records of transaction log up to market transaction
Use this option to restore database to the state when marked transaction was committed.

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Mark name
Specify the needed mark in the field.

Look for marks at or after
You need to define the start date time point to search for the marked transaction from.

☑ **Include marked transaction**
Enable this option to restore database to the state right after the transaction committing. If the option is disabled then database will be restored to the state right before the transaction committing.

☑ **Check orphaned users**
Check this option to detect orphaned users on restore process.

☑ **Drop orphaned users**
If this option is checked then found orphaned users will be dropped on the restore process.

<< Previous step Next step >>

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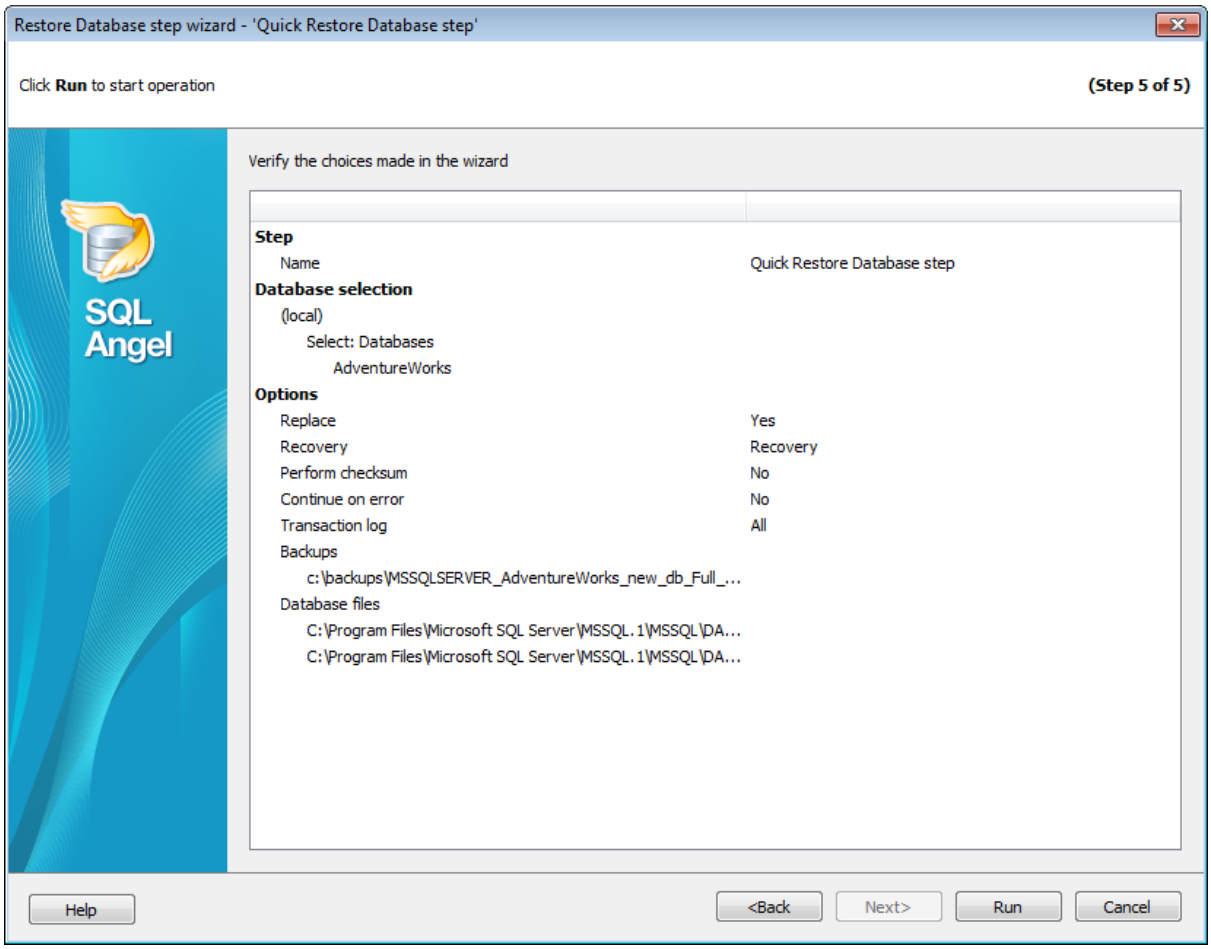
7.1.2.5 Performing operation

This step of the wizard is intended to inform you that all necessary options have been set, and you can start the operation.



After verifying the choices made in the wizard click the **Run** button to complete the operation.

[<< Previous step]

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7.1.3 Execute SQL Server Agent job

Execute SQL Server Agent job step allows you to execute an SQL Server Agent job on the server.

A **job** is a specified set of operations performed sequentially by SQL Server Agent. A job can perform a wide range of activities, including running Transact-SQL scripts, command-line applications, Microsoft ActiveX scripts, Integration Services packages, Analysis Services commands and queries, or Replication tasks. Jobs can run repetitive or scheduled tasks, and they can automatically notify operators of job status by generating alerts. Before using SQL Server jobs, make sure that the **SQL Server Agent** service is running.

Note: The status of this step execution shows whether a job has been launched or failed to launch, and not the result of job execution.

To launch the job *immediately* select **Quick Maintenance Actions | Execute SQL Server Agent job** popup menu item in the Servers tab.

To perform *scheduled execution* of SQL Server Agent job on regular basis you need to include this task into Policy:
1. At Step 2 of the Create Policy wizard click **Create new step** button and select **Execute SQL Server Agent job** type.
2. Also, you can create a new Step Template for further use selecting **Execute SQL Server Agent job step** at the Templates tab.

Steps of the Execute SQL Server Agent job wizard:
Naming template
Selecting job
Performing operation

See also:
Backup Database
Restore Database
Execute T-SQL statement
History Cleanup
Database Integrity Check
Reorganize Indices
Shrink Database
Update Statistics
Database Parameters Logger
Maintenance Cleanup
Transaction Log Shipping

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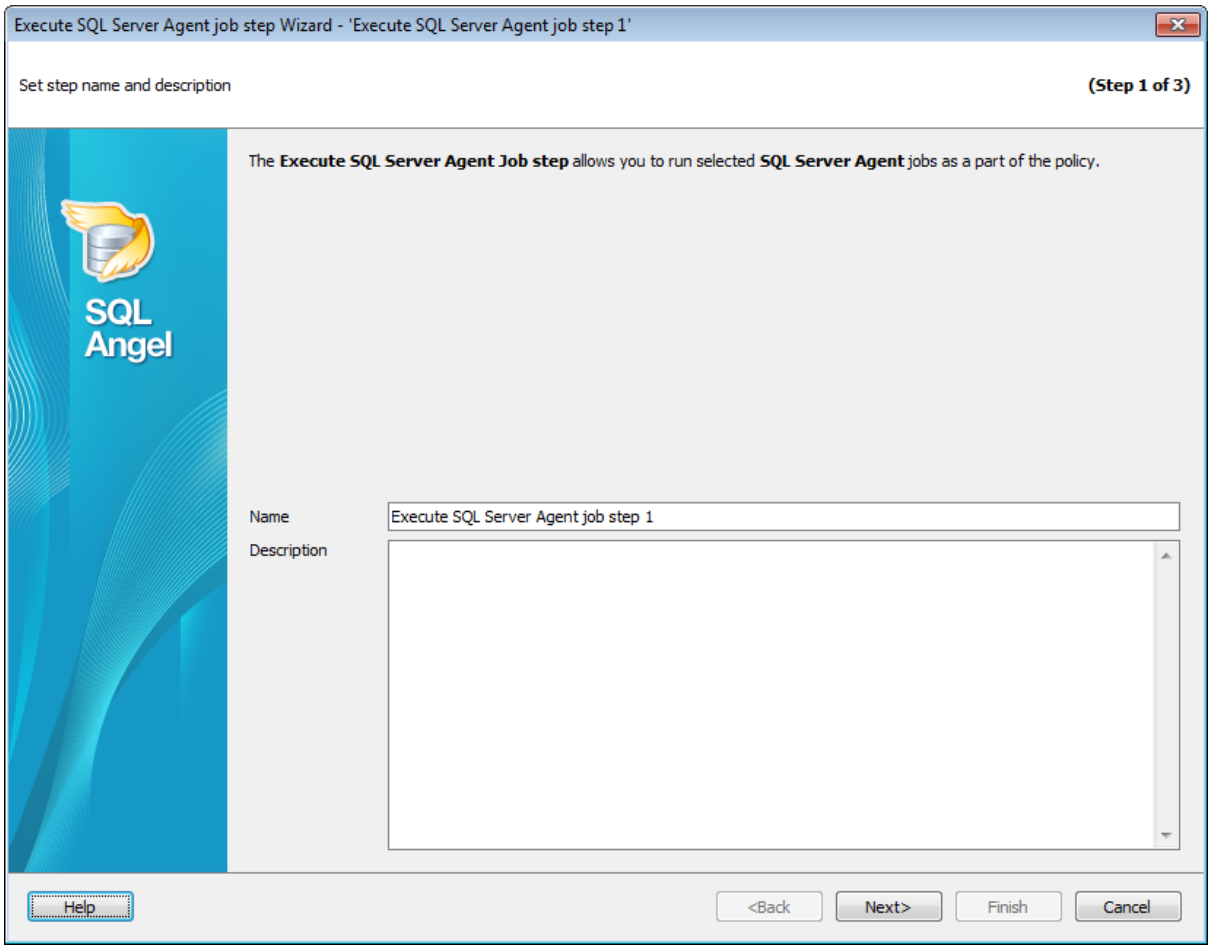
7.1.3.1 Naming step

You can name the step using the **Name** field. The **Description** field can be used to define brief info for the created step.


Execute SQL Server Agent job step Wizard - 'Execute SQL Server Agent job step 1'
Set step name and description
(Step 1 of 3)
The Execute SQL Server Agent Job step allows you to run selected SQL Server Agent jobs as a part of the policy.
SQL Angel
Name
Execute SQL Server Agent job step 1
Description
Help
<Back
Next>
Finish
Cancel

This step does not appear for Quick Maintenance Actions.

Next step >>

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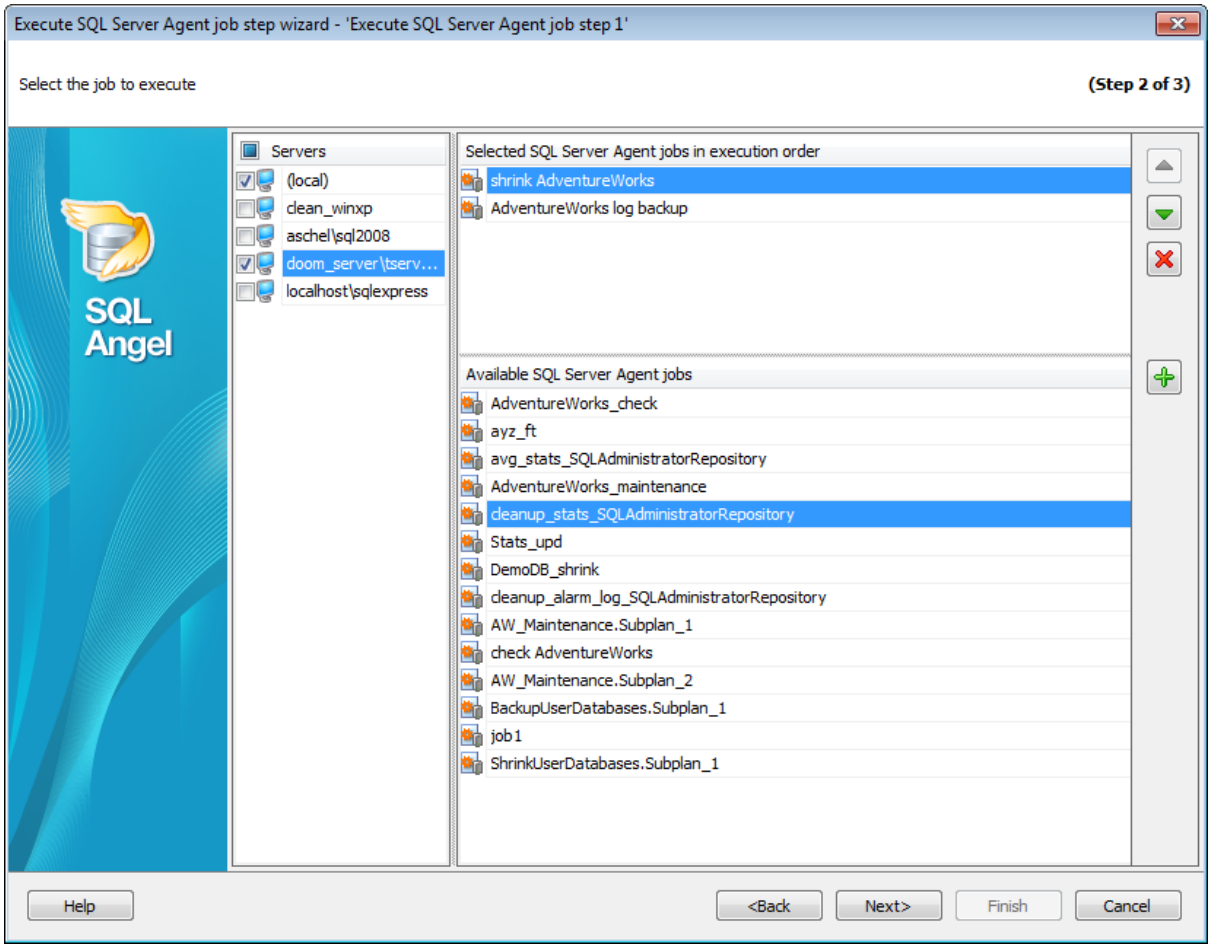
7.1.3.2 Selecting job

Use this step to set the correspondence between instances and jobs to be executed.



Select the server(s) in the **Servers** list and add the job from the **Available SQL Server Agent's jobs** list to **Selected SQL Server Agent's jobs in execution order** list using button or double-clicking.

Note: Selecting servers is not available in Template mode. If the server name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.

You can re-arrange jobs order for execution using arrow buttons on the right .

Use Delete button or *Delete* key to remove job from the list.

<< Previous step Next step >>

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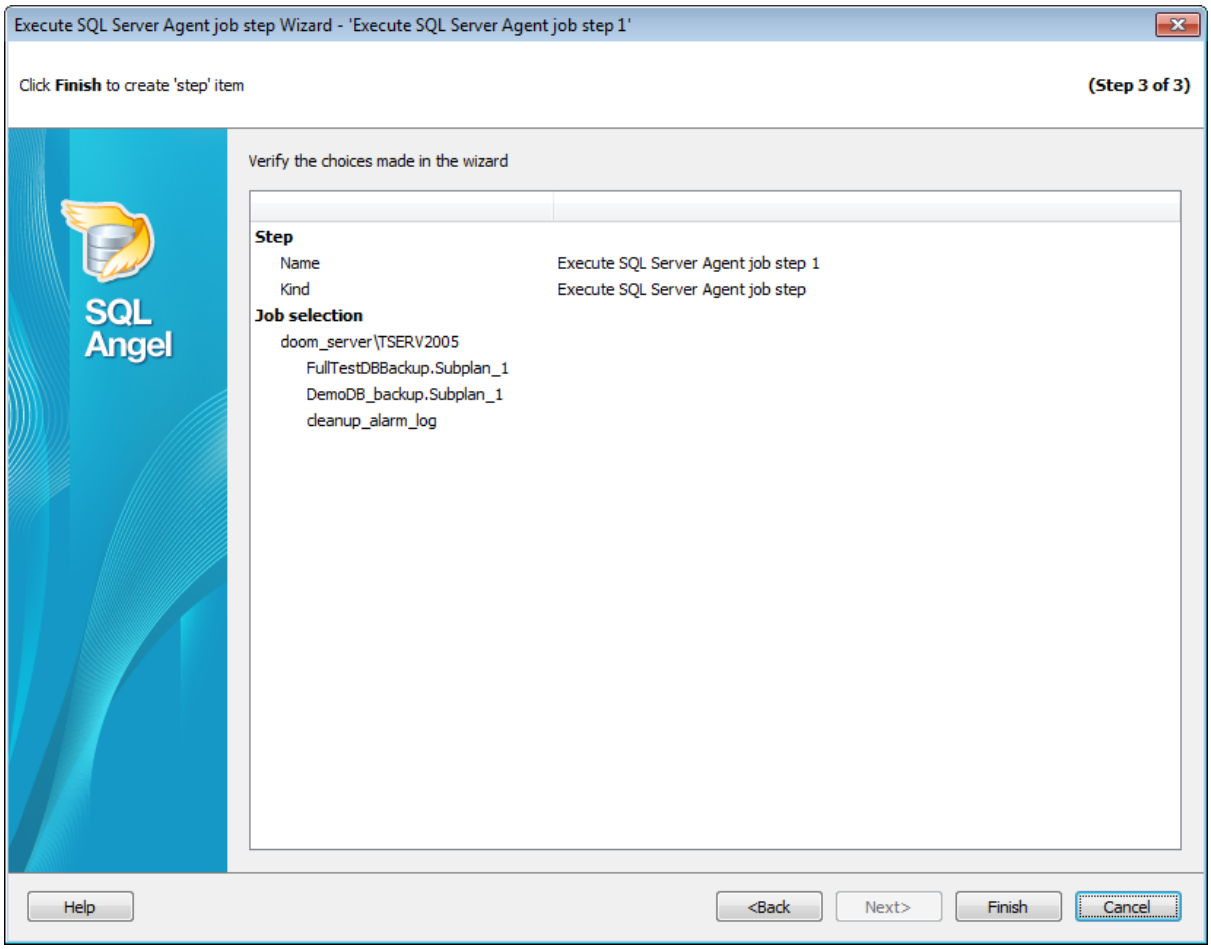
7.1.3.3 Performing operation

This step of the wizard is intended to inform you that all necessary options have been set, and you can start job(s) execution.



After verifying the choices made in the wizard click the **Finish** button to complete the operation.

<< Previous step

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7.1.4 Execute T-SQL statement

Execute T-SQL statement step allows you to execute any T-SQL statement.

To launch the T-SQL statement *immediately* select **Quick Maintenance Actions | Execute T-SQL statement** popup menu item in the Servers tab.

To perform *scheduled T-SQL statement execution* on regular basis you need to include this task into Policy:
1. At Step 2 of the Create Policy wizard click **Create new step** button and select **Execute T-SQL statement step** type.
2. Also, you can create a new Step Template for further use selecting **Execute T-SQL statement step** at the Templates tab.

Steps of the Execute T-SQL statement wizard:
Naming template
Selecting server
Defining T-SQL statement
Performing operation

See also:
Backup Database
Execute SQL Server Agent job
History Cleanup
Database Integrity Check
Reorganize Indices
Shrink Database
Update Statistics
Database Parameters Logger
Maintenance Cleanup
Transaction Log Shipping

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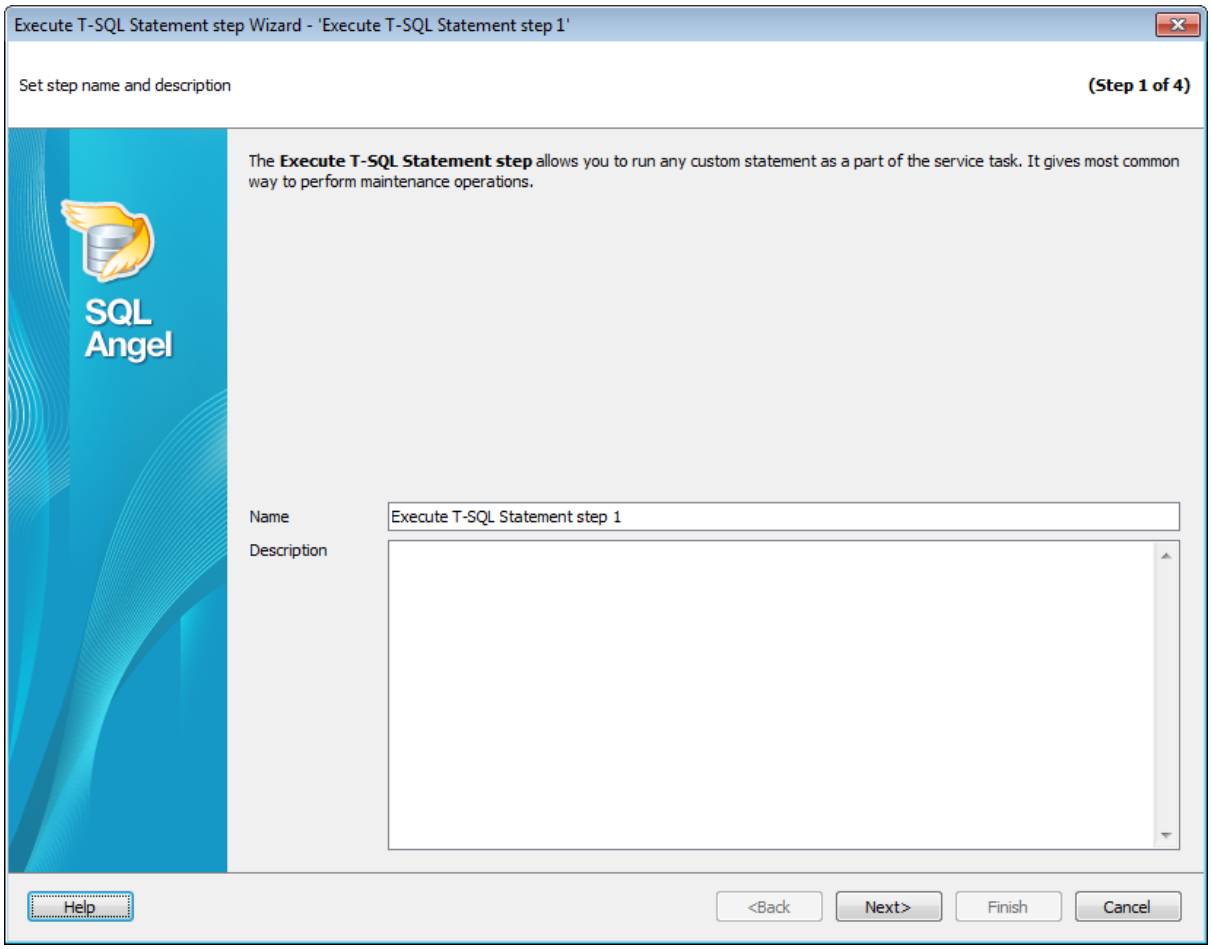
7.1.4.1 Naming step

You can name the step using the **Name** field. The **Description** field can be used to define brief info for the created step.


Execute T-SQL Statement step Wizard - 'Execute T-SQL Statement step 1'
Set step name and description
(Step 1 of 4)
SQL Angel
The Execute T-SQL Statement step allows you to run any custom statement as a part of the service task. It gives most common way to perform maintenance operations.
Name
Execute T-SQL Statement step 1
Description
Help
<Back
Next>
Finish
Cancel

This step does not appear for Quick Maintenance Actions.

Next step >>

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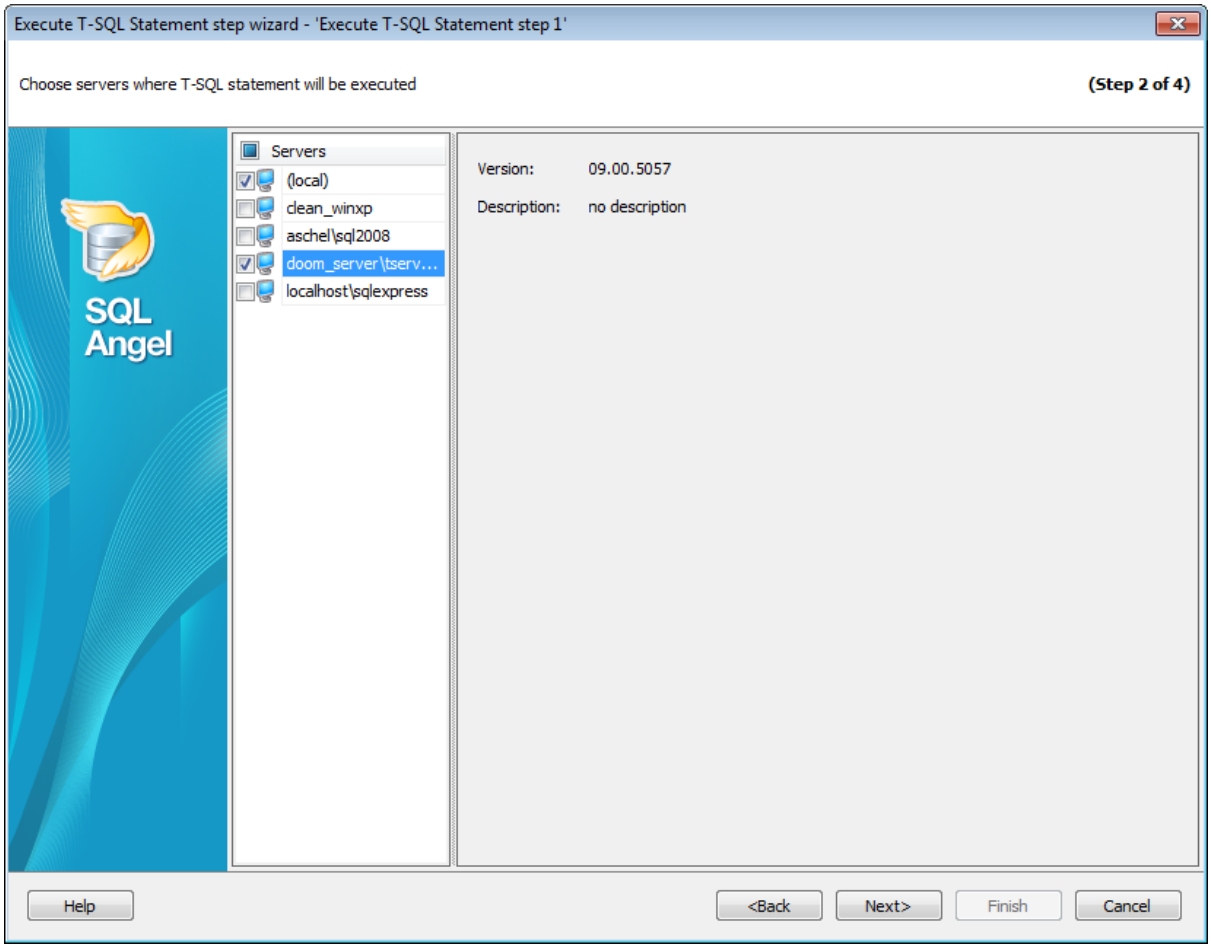
7.1.4.2 Selecting server

Use this step of the wizard to select server(s) for T-SQL statement execution.



Servers

Select the **servers** to execute the T-SQL statement on. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.

Note: Selecting servers is not available in Template mode.

Server **description** and **version** are displayed on the right panel.

<< Previous step Next step >>

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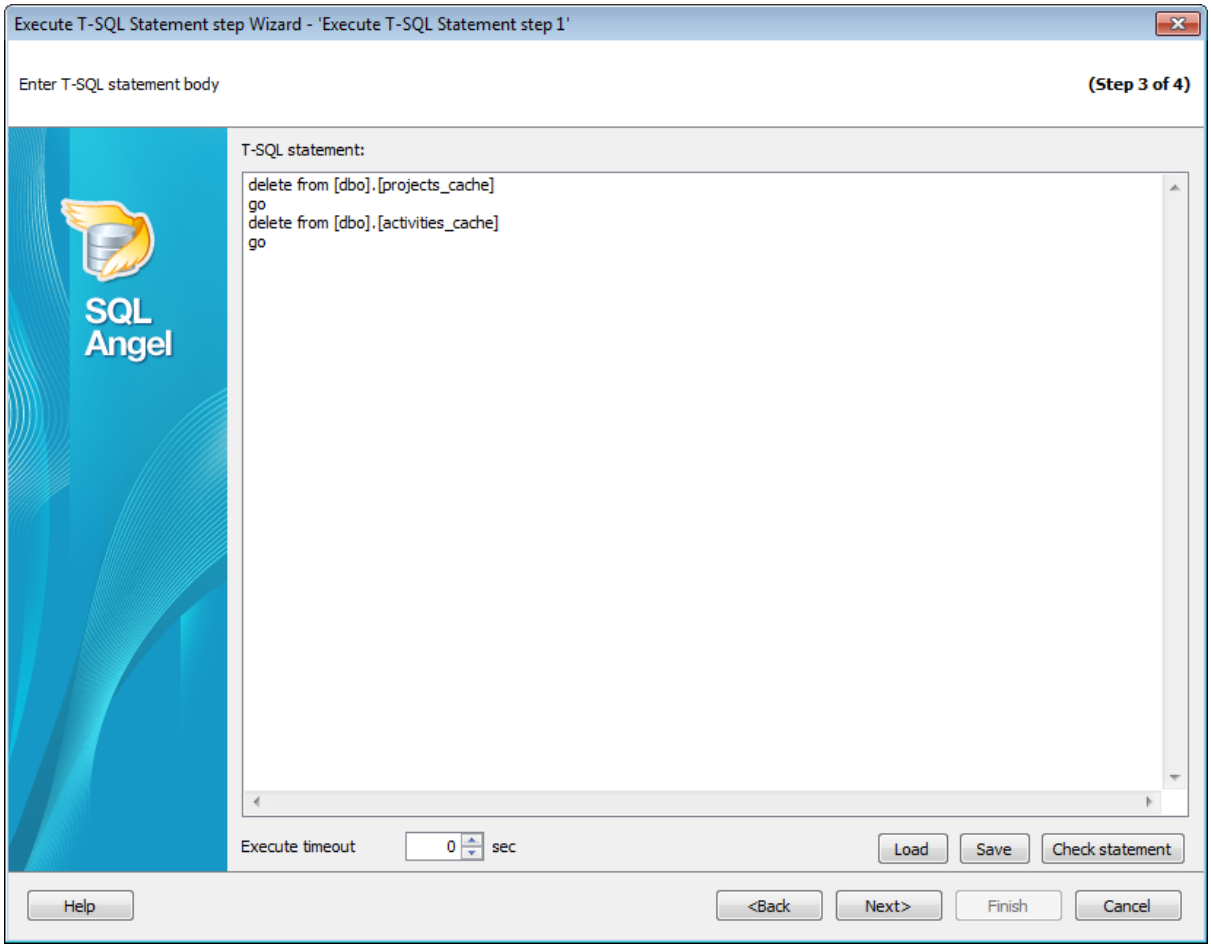
7.1.4.3 Defining T-SQL statement

Use this step to define a T-SQL statement to be executed.



Type the T-SQL statement in the **Query text** tab.

Use the **Execute timeout** field to define time restriction for checking the statement procedure.

Use the **Check statement** button to run the statement on the server in PARSEONLY mode to ensure that T-SQL statement is correct. The detailed log of errors is displayed at the **Errors** tab.

Note: The **Check statement** button is not available in **Template** mode.

Use **Load\Save** buttons for loading or saving the script from\to an internal file.

All errors are displayed on the **Errors** tab.

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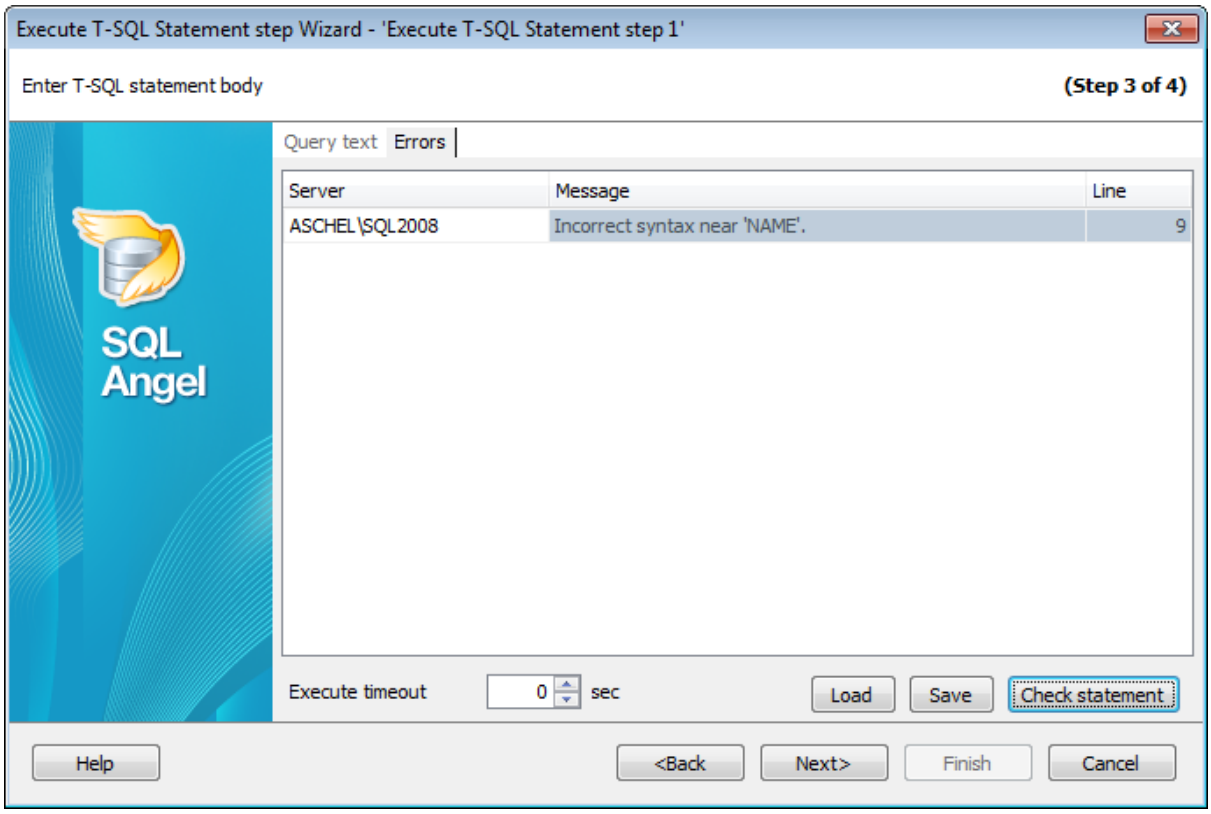

[<< Previous step](#) [Next step >>](#)

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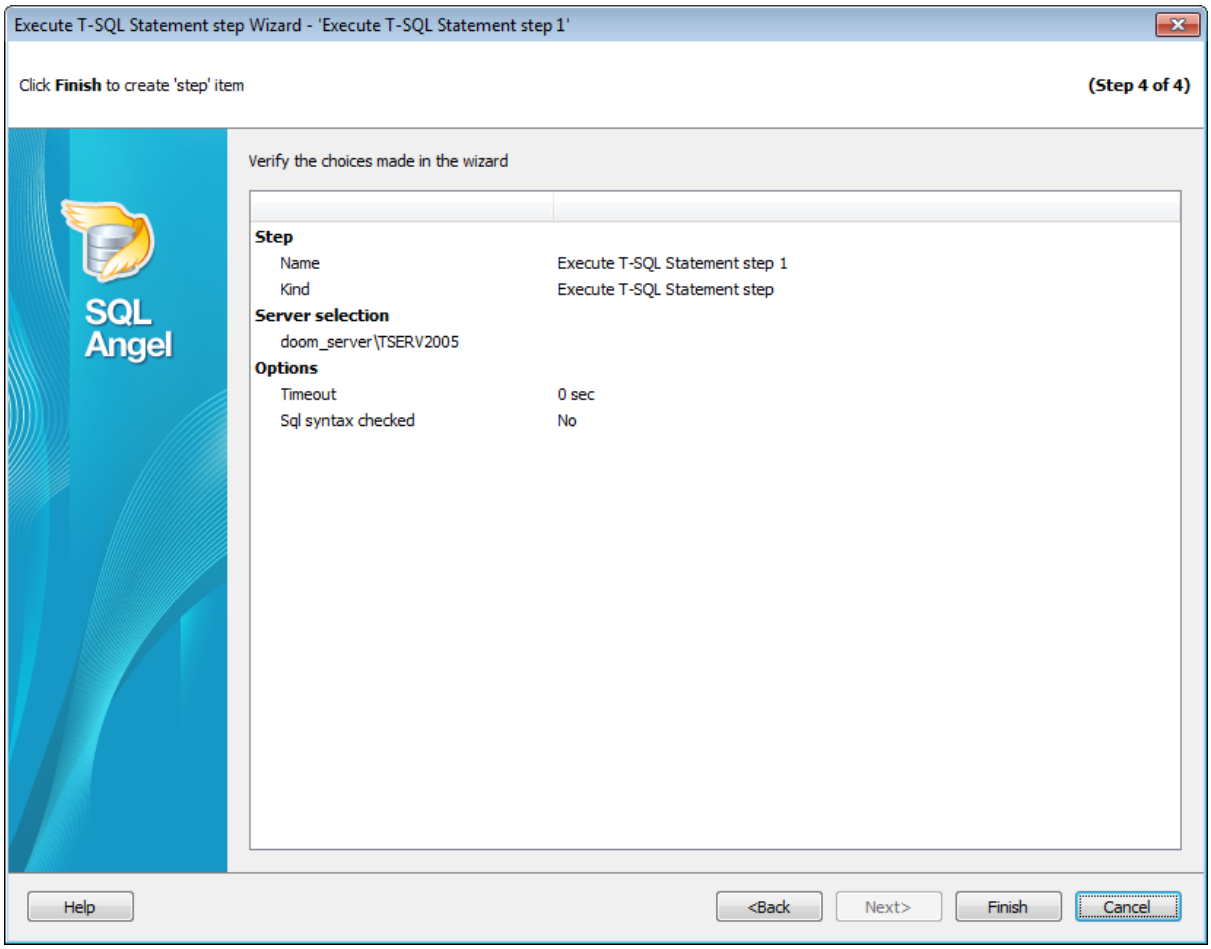
7.1.4.4 Performing operation

This step of the wizard is intended to inform you that all necessary options have been set, and you can start T-SQL statement execution.



After verifying the choices made in the wizard click the **Finish** button to complete the operation.

<< Previous step

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7.1.5 History Cleanup

History Cleanup step allows you to clean the selected instance history (backup history and SQL Agent jobs).

To launch history cleanup *immediately* select **Quick Maintenance Action | History Cleanup** popup menu item in the Servers tab .

To perform *scheduled history cleaning* on regular basis you need to include this task into Policy:
1. At Step 2 of the Create Policy wizard click **Create new step** button and select **History Cleanup step** type.
2. Also, you can create a new Step Template for further use selecting **History Cleanup step** at the Templates tab.

Steps of the History Cleanup wizard:
Naming template
Selecting server
Selecting historical data
Performing operation

See also:
Backup Database
Restore Database
Execute SQL Server Agent job
Execute T-SQL statement
Database Integrity Check
Reorganize Indices
Shrink Database
Update Statistics
Database Parameters Logger
Maintenance Cleanup
Transaction Log Shipping

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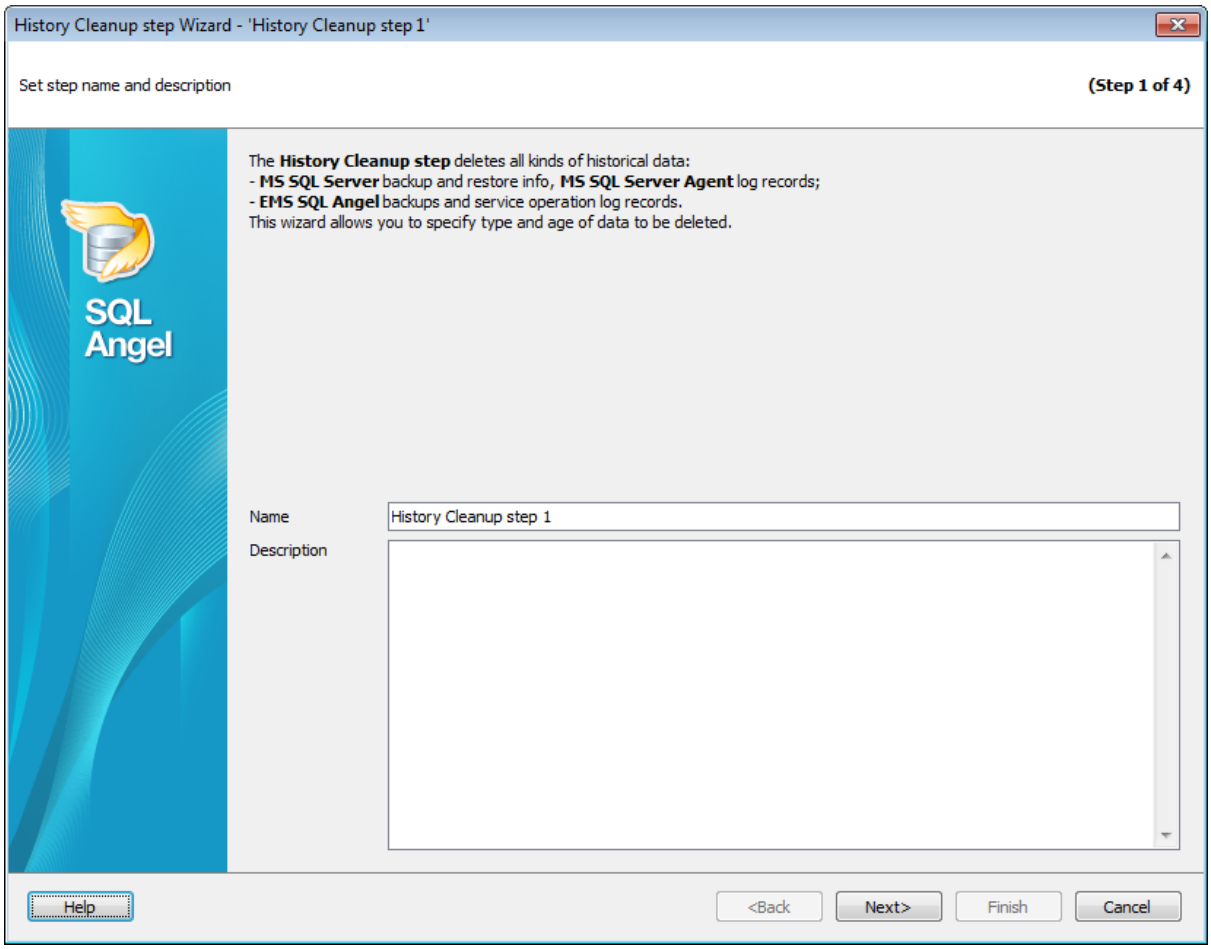
7.1.5.1 Naming step

You can name the step using the **Name** field. The **Description** field can be used to define brief info for the created step.


History Cleanup step Wizard - 'History Cleanup step 1'
Set step name and description
(Step 1 of 4)
SQL Angel
The History Cleanup step deletes all kinds of historical data:
- MS SQL Server backup and restore info, MS SQL Server Agent log records;
- EMS SQL Angel backups and service operation log records.
This wizard allows you to specify type and age of data to be deleted.
Name
History Cleanup step 1
Description
Help
<Back
Next>
Finish
Cancel

This step does not appear for Quick Maintenance Actions.

Next step >>

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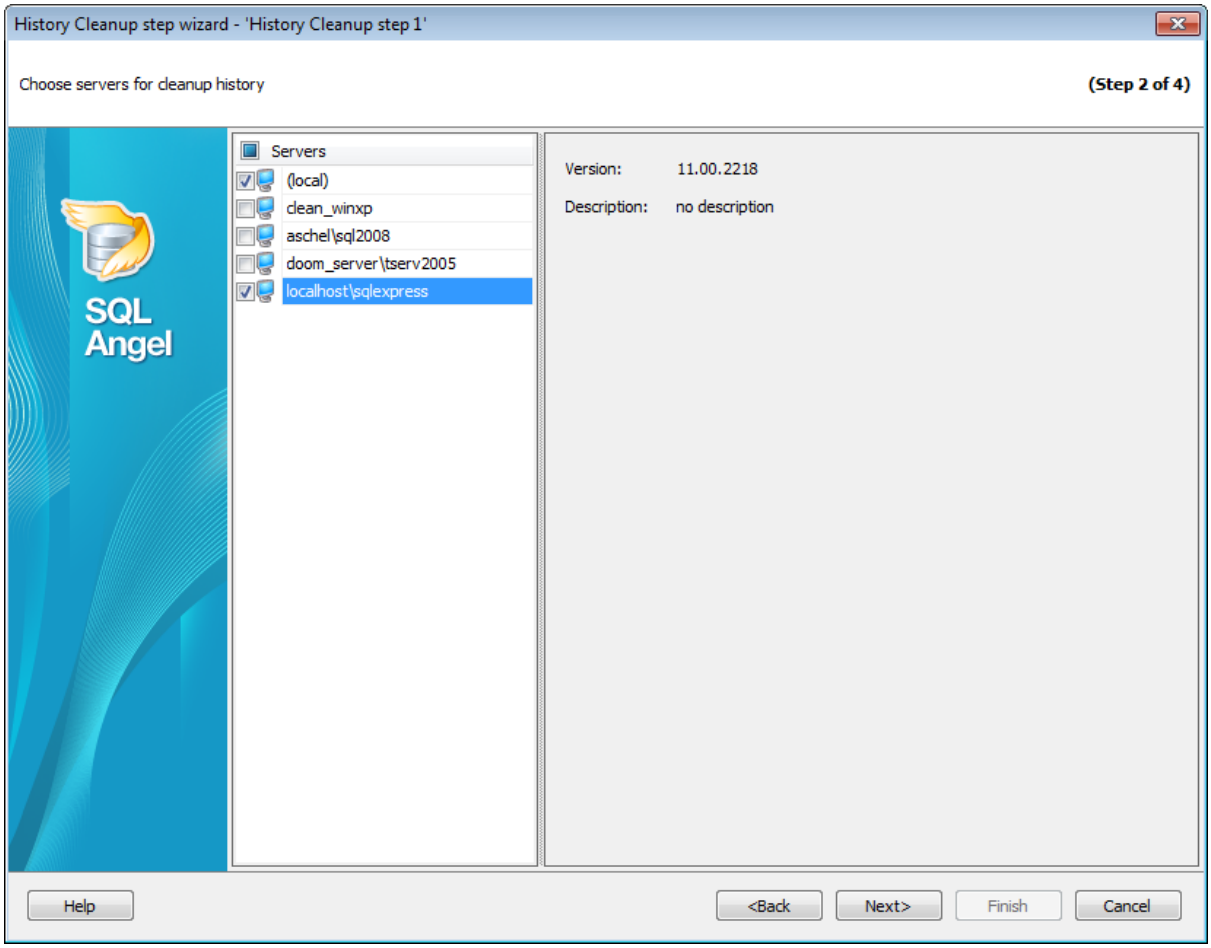
7.1.5.2 Selecting server

Use this step of the wizard to select servers for history cleanup.



Servers

Select the **Server(s)** to clean history. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.
Note: Selecting servers is not available in Template mode.

Server **description** and **version** are displayed on the right panel.

[<< Previous step](#) [Next step >>](#)

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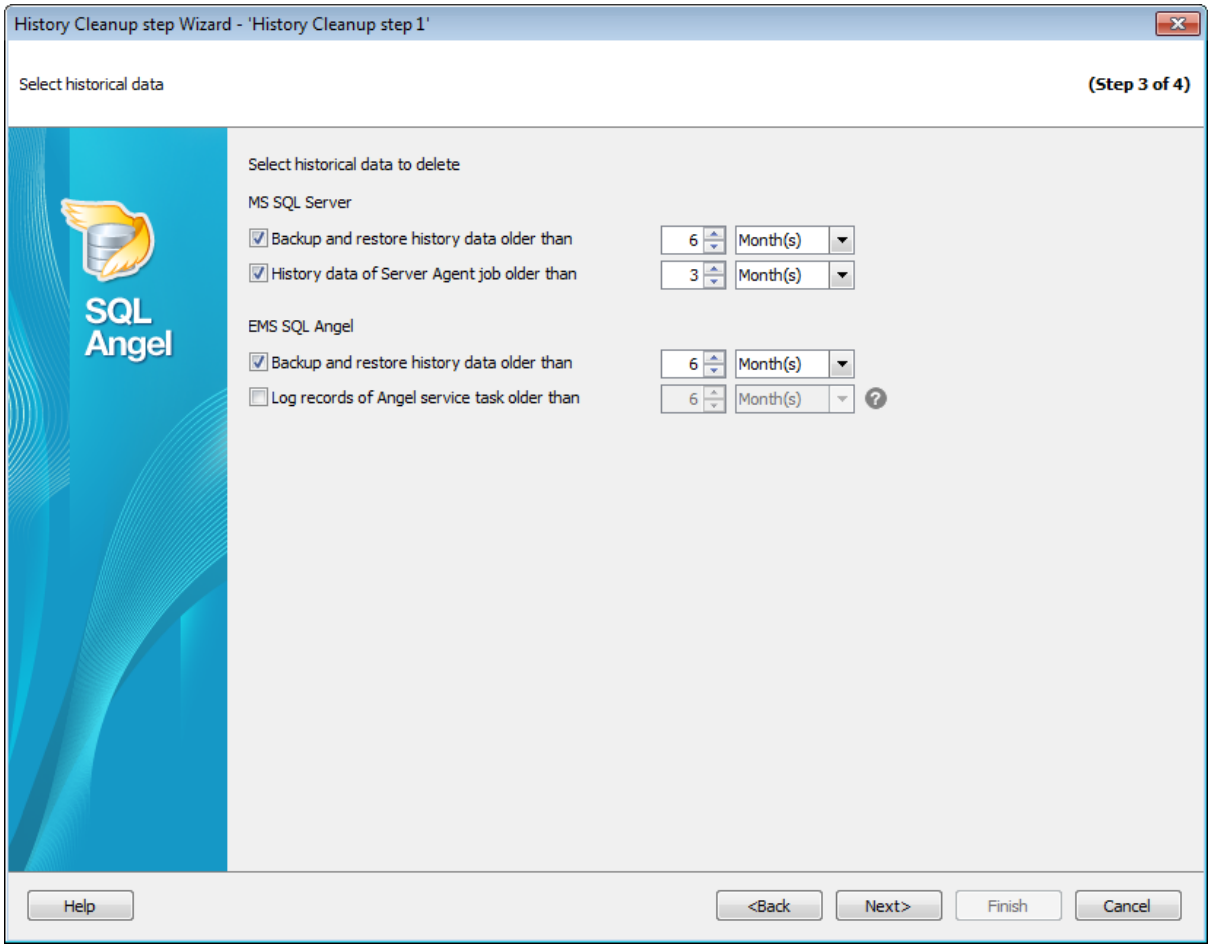
7.1.5.3 Selecting historical data

At this step of the wizard you need to define the history that should be deleted.



MS SQL Server
The following options are intended to delete MS SQL backup history and some log info concerning specific jobs performed by MS SQL Server means.

Backup and restore history data older than
Enable the option to clean the history of the MS SQL Server backup and restore operations that are older than specified period of time. After cleanup the information about SQL Server type backups performed by SQL Angel or by SQL Server itself will be removed from the server.

History data of Server Agent job older than
Enable the option to clean the history of the SQL Server Agent job(s) that are older than specified period of time. After this cleanup all information about SQL Server Agent job execution will be removed from the server.

EMS SQL Angel
The following options are intended to delete some log info concerning tasks performed by SQL Angel.

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Backup and restore history data older than
Enable the option to clean the history of the backup and restore operations that are older than specified period of time. After cleanup the information about SQL Angel type backups will be removed from SQL Angel.

Log records of Angel service task older than
Enable the option to clean the history of the SQL Angel task(s) execution that are older than specified period of time. After cleanup the information about executed tasks will be removed from History Viewer.

<< Previous step Next step >>

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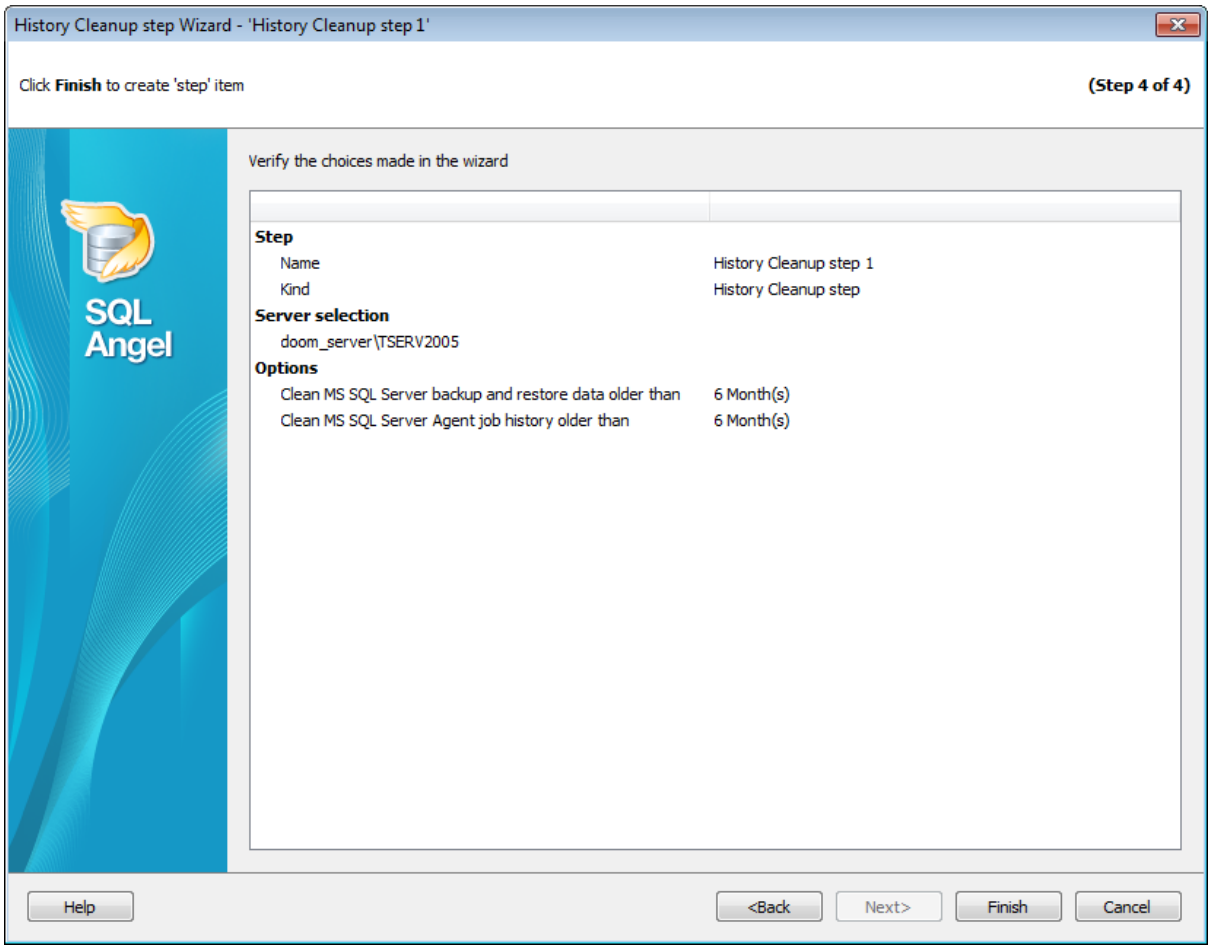
7.1.5.4 Performing operation

This step of the wizard is intended to inform you that all necessary options have been set, and you can start cleaning the history data.



After verifying the choices made in the wizard click the **Finish** button to complete the operation.

[<< Previous step]

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7.1.6 Database Integrity Check

Database Integrity Check step allows you to perform the check database operation on the server (the DBCC CHECKDB Transact-SQL statement is issued). This operation is used to check the allocation, structural, and logical integrity of all the objects in the specified database.

To launch the database check *immediately* select **Quick Maintenance Actions | Database Integrity Check** popup menu item in the Servers tab.

To perform *scheduled database integrity check* on regular basis you need to include this task into Policy:
1. At Step 2 of the Create Policy wizard click **Create new step** button and select **Database Integrity Check step** type.
2. Also, you can create a new Step Template for further use selecting **Database Integrity Check step** at the Templates tab.

Steps of the Database Integrity Check wizard:
Naming template
Selecting databases
Setting options
Performing operation

See also:
Backup Database
Restore Database
Execute SQL Server Agent job
Execute T-SQL statement
History Cleanup
Reorganize Indices
Shrink Database
Update Statistics
Database Parameters Logger
Maintenance Cleanup
Transaction Log Shipping

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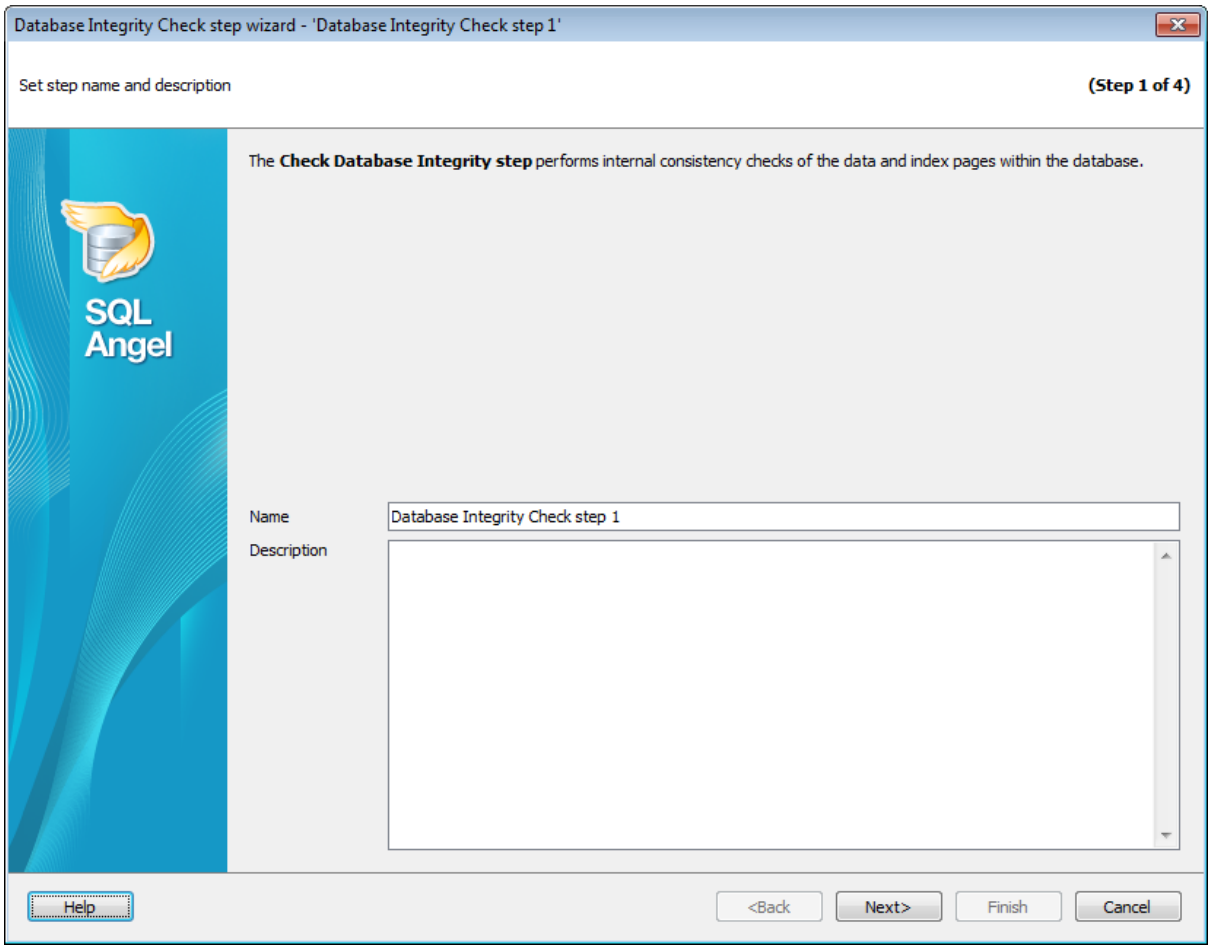
7.1.6.1 Naming step

You can name the step using the **Name** field. The **Description** field can be used to define brief info for the created step.


Database Integrity Check step wizard - 'Database Integrity Check step 1'
Set step name and description
(Step 1 of 4)
SQL Angel
The Check Database Integrity step performs internal consistency checks of the data and index pages within the database.
Name
Database Integrity Check step 1
Description
Help
<Back
Next>
Finish
Cancel

This step does not appear for Quick Maintenance Actions.

Next step >>

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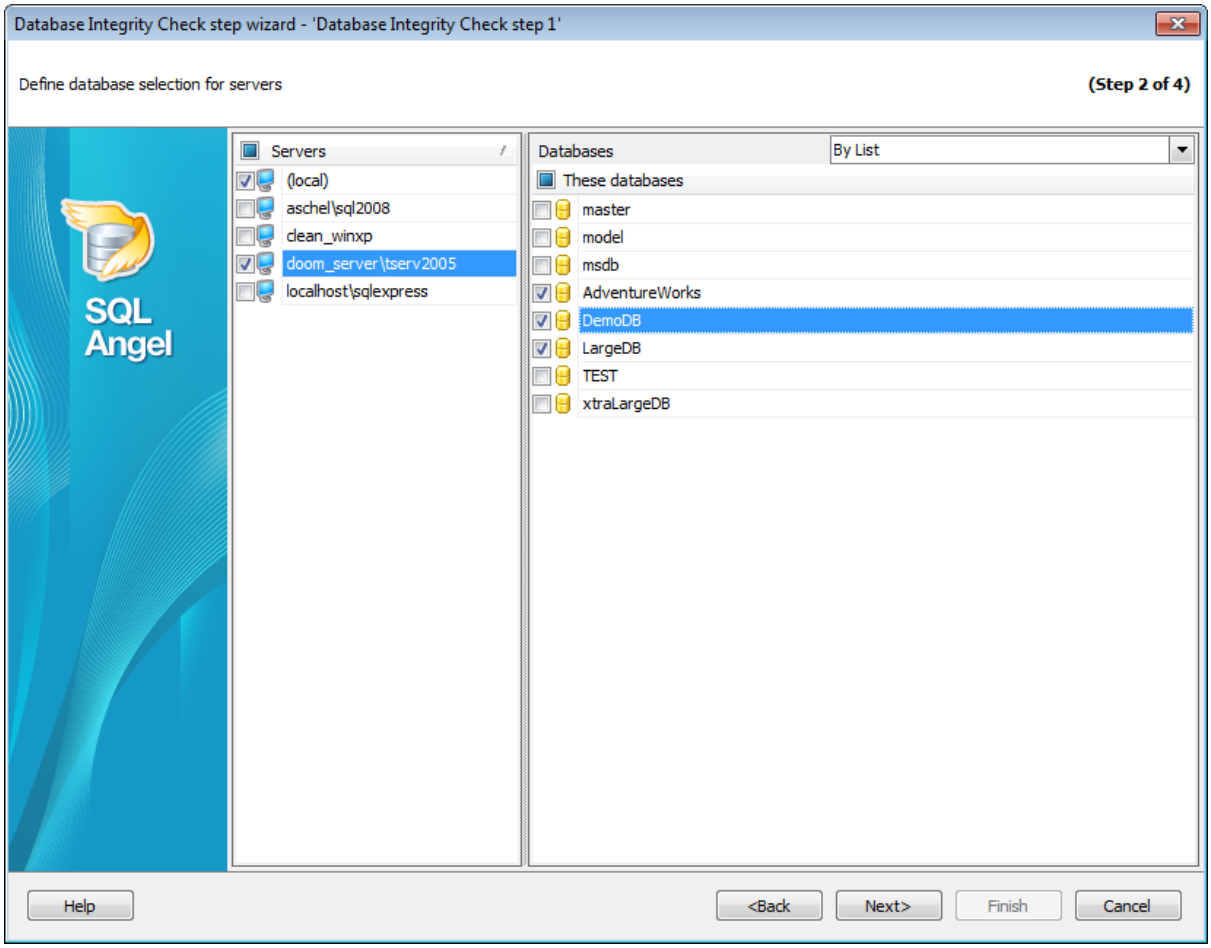
7.1.6.2 Selecting databases

Use this step of the wizard to select databases for integrity check.



Servers

Select the **servers** to run the operation on. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.

Note: Selecting servers is not available in Template mode.

Databases

All
Use this option to select both: system and user databases.

All system
This option indicates that only system databases should be checked.

All user
Select this option to check user databases only.

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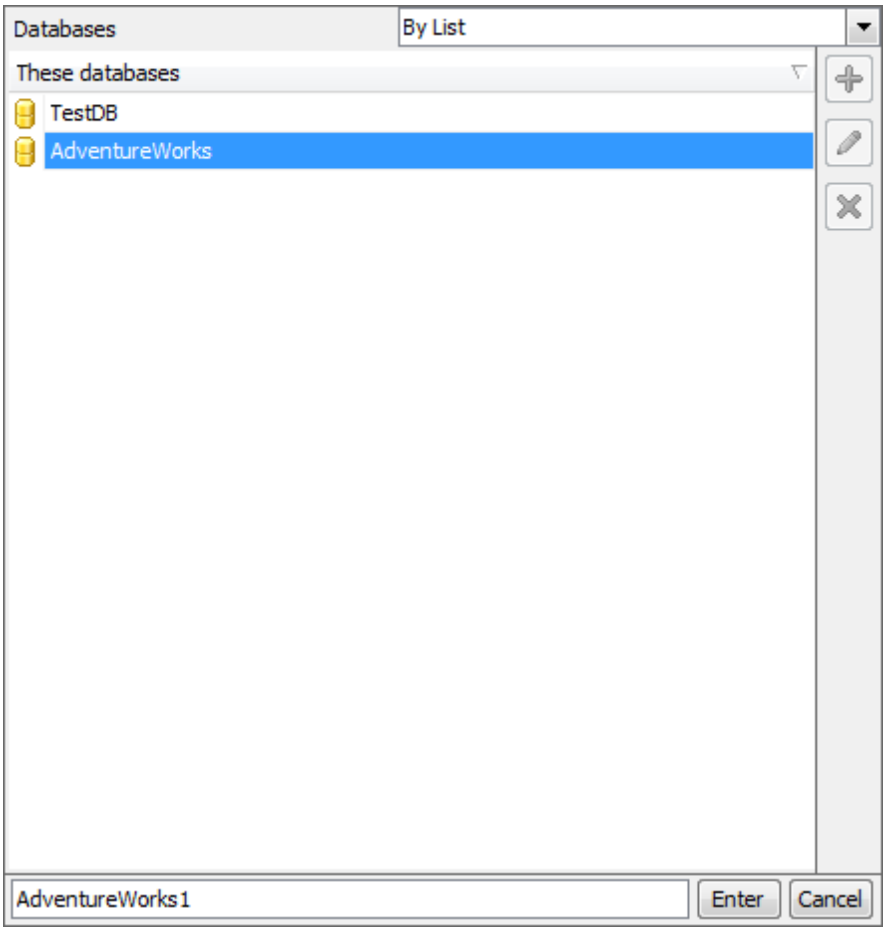
By mask
This option allows defining database selection by mask. Use ***** for a set of any characters and **?** for any single character in the database name.

By list
This option allows you to select databases manually.
If you are creating a step in a policy template then you are able to enter databases manually.



Use the button or *Ins* key to define database name. After you click the *Enter* button the database will be added to the list.

Any database from the list can be edited or deleted.

[<< Previous step](#) [Next step >>](#)

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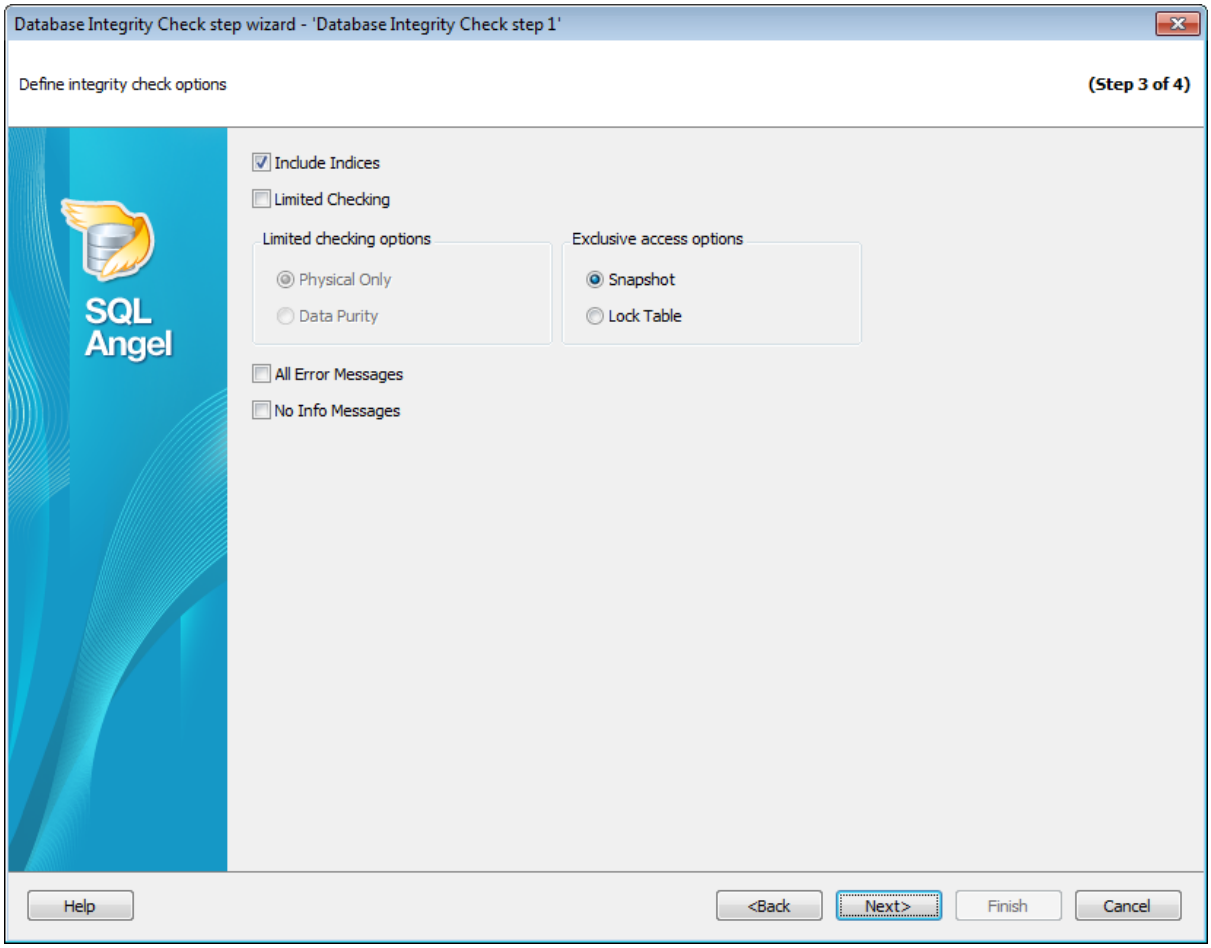
7.1.6.3 Setting options

This step of the wizard allows you to customize database integrity check.



Include Indices
The option indicates that indices are included in database integrity check.

Limited Checking
Use this option if you need to restrict database integrity check with **Physical Only** or **Data Purity** conditions:

Physical Only option (*PHYSICAL_ONLY*) limits the checking operation to the integrity of the physical structure of the page and record headers, the physical structure of B-trees and the allocation consistency of the database. Designed to provide a small overhead check of the physical consistency of the database, this check can also detect torn pages, checksum failures, and common hardware failures that can compromise a user's data.

If **Data Purity** option (*DATA_PURITY*) is enabled, the *DBCC CHECKDB* statement checks the database for column values that are not valid or out-of-range.

Exclusive access options limit the checks that are performed.

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Snapshot
Enable the option to use an internal database snapshot for the transactional consistency needed to perform database integrity checks.
Lock Table
If this option (*TABLOCK*) is used, the *DBCC CHECKDB* statement obtains locks instead of using an internal database snapshot. This includes a short-term database exclusive lock.

All error messages
This option (*ALL_ERRORMSGS*) displays an unlimited number of errors per object.

No info messages
This option (*NO_INFOMSGS*) suppresses all informational messages.

<< Previous step Next step >>

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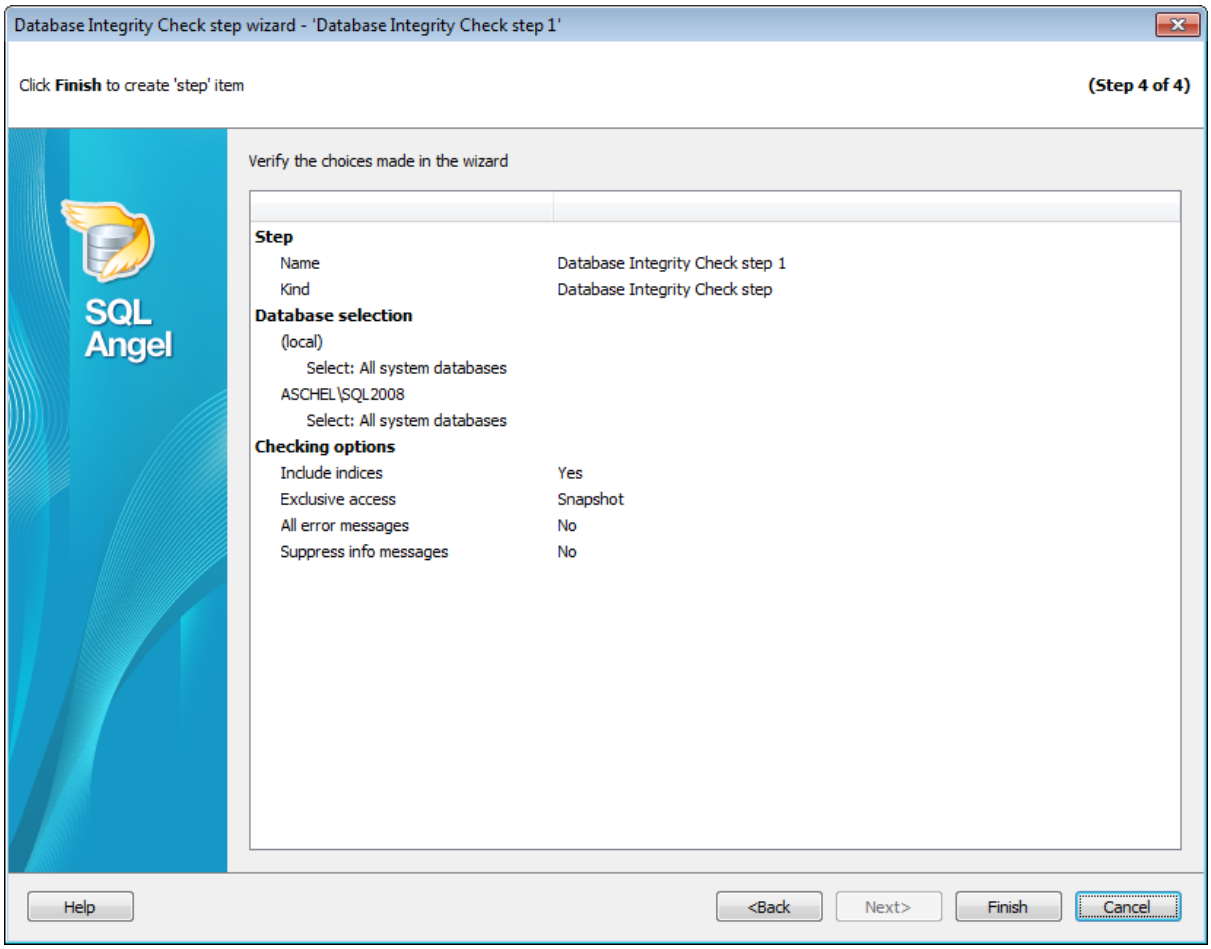
7.1.6.4 Performing operation

This step of the wizard is intended to inform you that all necessary options have been set, and you can start checking database integrity.



After verifying the choices made in the wizard click the **Finish** button to complete the operation.

[<< Previous step]

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7.1.7 Reorganize Indices

Reorganize Indices step allows you to perform index management operations in your databases: *reorganizing*, *rebuilding*, *disabling* (the *ALTER INDEX REORGANIZE ... REBUILD ... DISABLE* Transact-SQL statements are issued).

When indexes have pages in which the logical ordering based on the key value does not match the physical ordering inside the data file, these indexes are called fragmented. Highly fragmented indexes may considerably decrease query performance. Index fragmentation is remedied by either reorganizing or by rebuilding an index.

To launch the reorganization of indexes *immediately* select **Quick Maintenance Actions | Reorganize Indices** popup menu item in the Servers tab.

To perform *scheduled backup* on regular basis you need to include this task into Policy:
1. At Step 2 of the Create Policy wizard click **Create new step** button and select **Reorganize Indices step** type.
2. Also, you can create a new Step Template for further use selecting **Reorganize Indices step** at the Templates tab.

Steps of the Reorganize Indices wizard:
Naming template
Selecting objects
Defining rules
Advanced options
Performing operation

See also:
Backup Database
Execute SQL Server Agent job
Execute T-SQL statement
History Cleanup
Database Integrity Check
Shrink Database
Update Statistics
Database Parameters Logger
Maintenance Cleanup
Transaction Log Shipping

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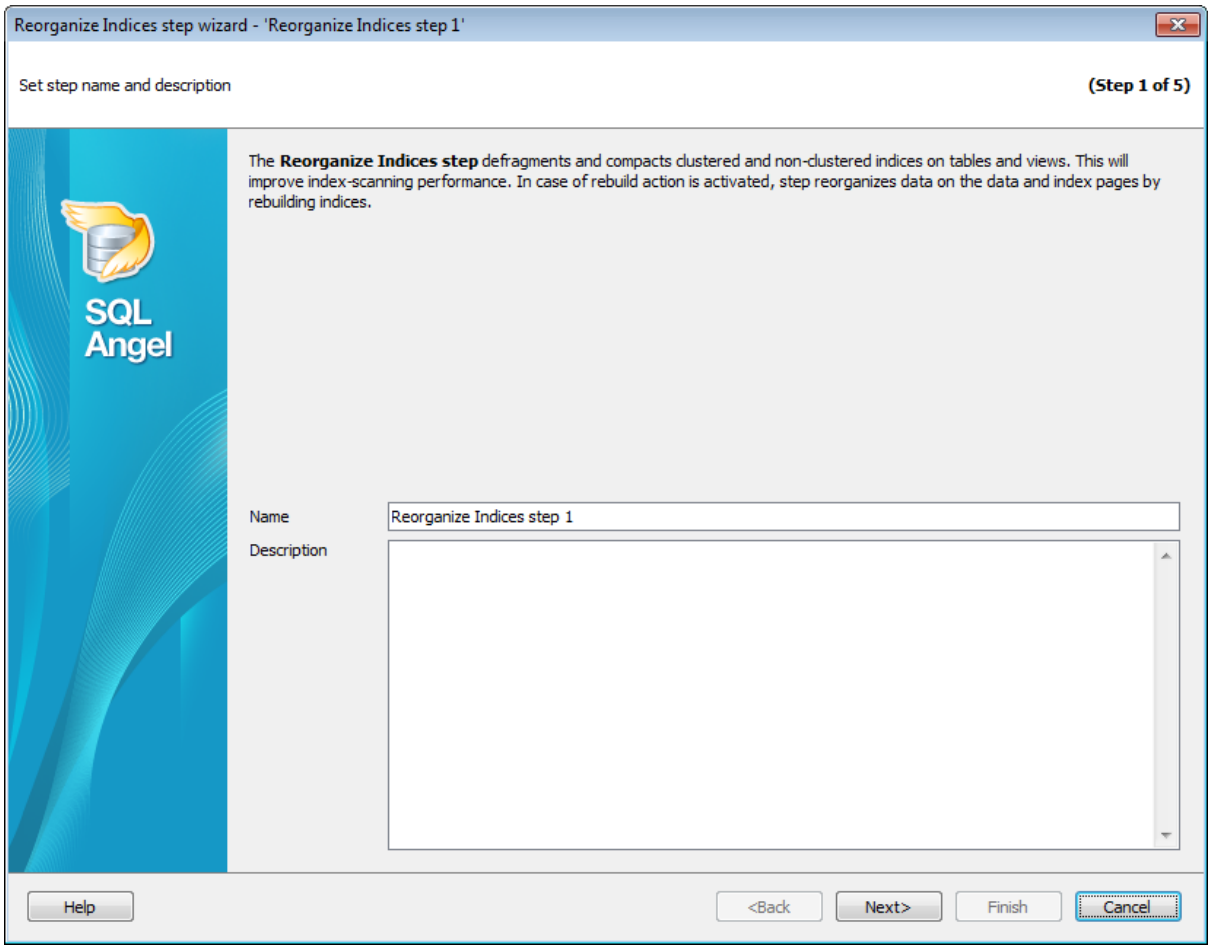
7.1.7.1 Naming step

You can name the step using the **Name** field. The **Description** field can be used to define brief info for the created step.


Reorganize Indices step wizard - 'Reorganize Indices step 1'
Set step name and description
(Step 1 of 5)
SQL Angel
The Reorganize Indices step defragments and compacts clustered and non-clustered indices on tables and views. This will improve index-scanning performance. In case of rebuild action is activated, step reorganizes data on the data and index pages by rebuilding indices.
Name
Reorganize Indices step 1
Description
Help
<Back
Next>
Finish
Cancel

This step does not appear for Quick Maintenance Actions.

Next step >>

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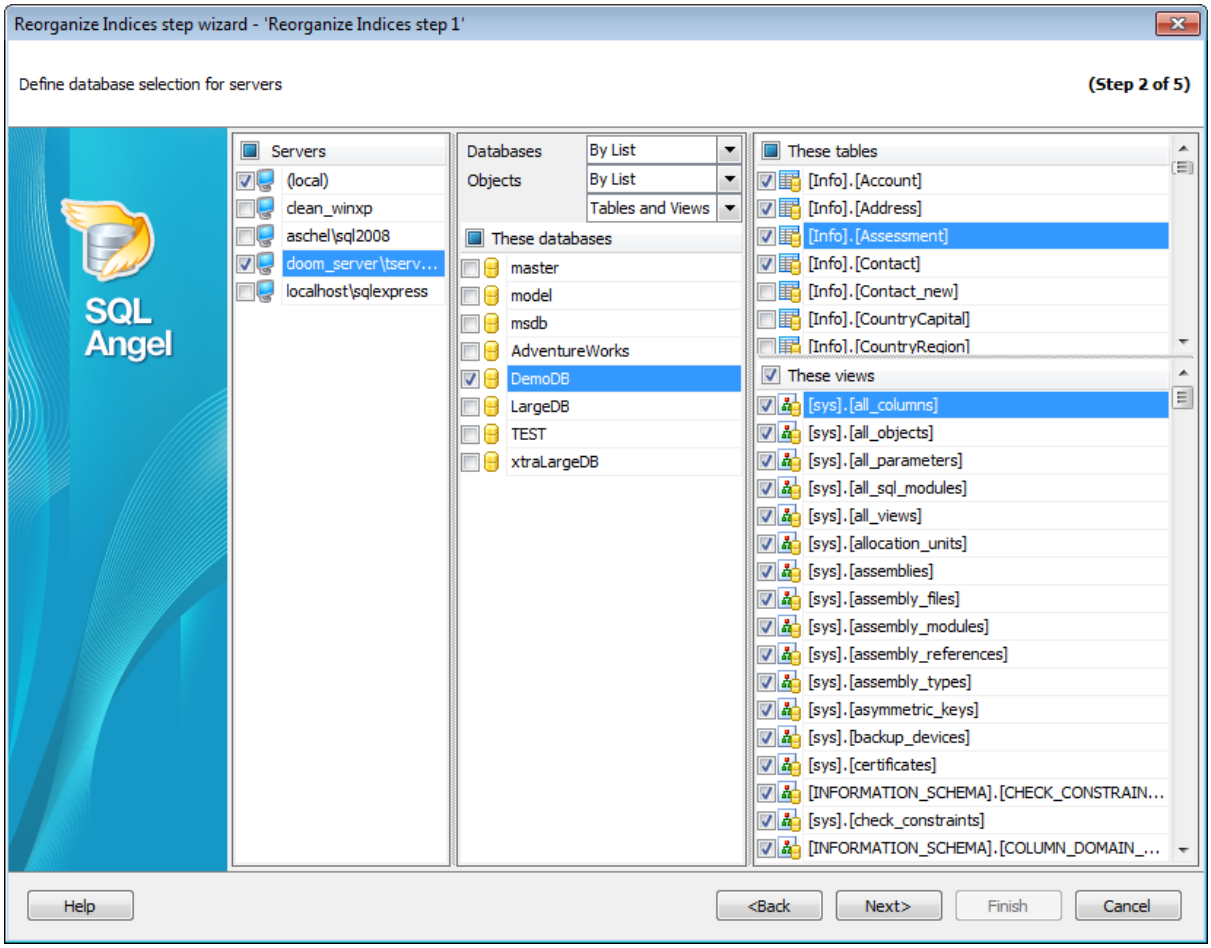
7.1.7.2 Selecting objects

Use this step of the wizard to select objects for index reorganization.



Servers

Select the **servers** to run the operation on. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.

Note: Selecting servers is not available in Template mode.

Databases and objects

Select objects to reorganize indexes.

All
Use this option to select both: system and user objects.

All system
This option indicates that only system objects should be selected.

All user
Select this option to select user objects only.

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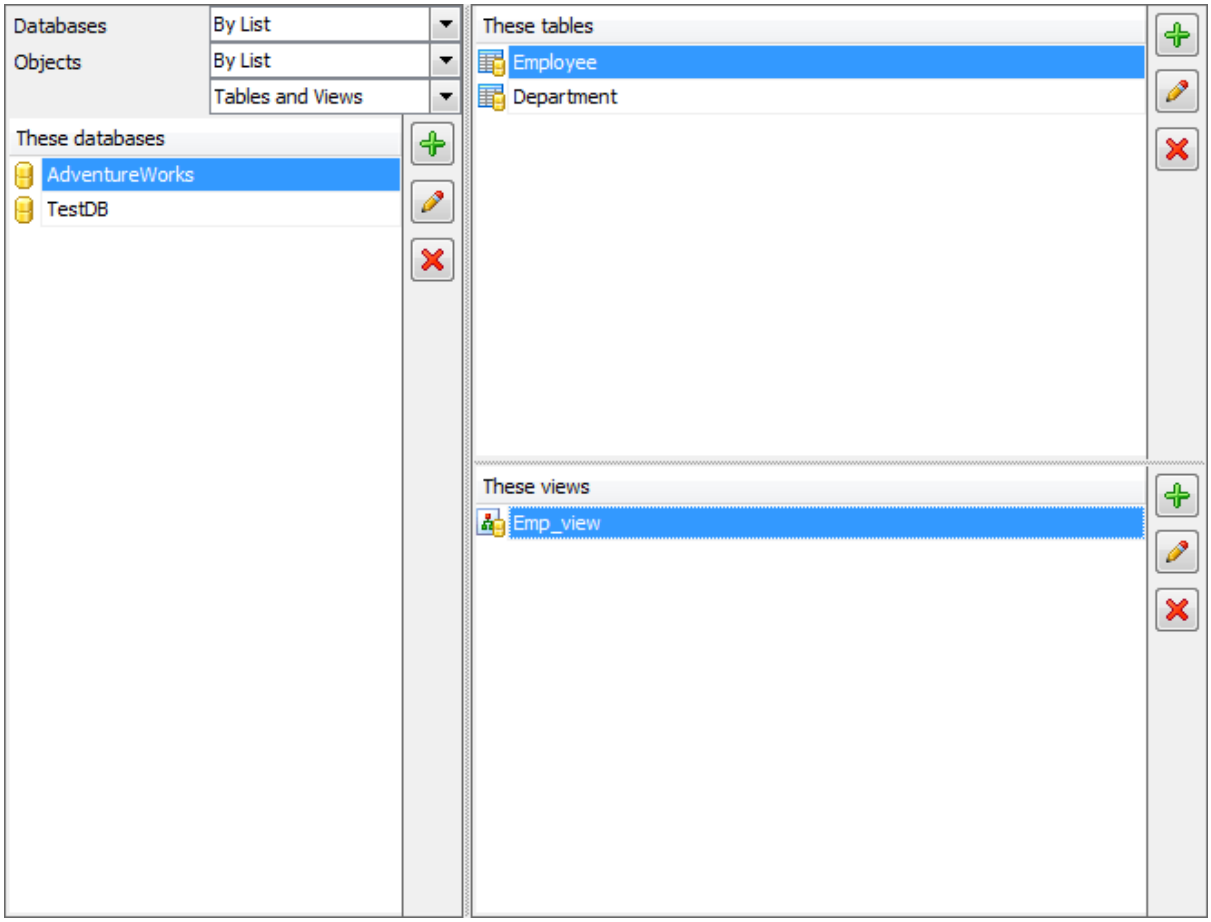
By mask
This option allows defining objects selection by mask. Use ***** for a set of any characters and **?** for any single character in the object name.

By list
This option allows you to select objects manually.
If you are creating a step in a policy template then you are able to enter databases, tables and views manually.



Use the button or *Ins* key to define database/table/view name. After you click the *Enter* button the database/table/view will be added to the list.

Any database/table/view from the list can be edited or deleted.

<< Previous step Next step >>

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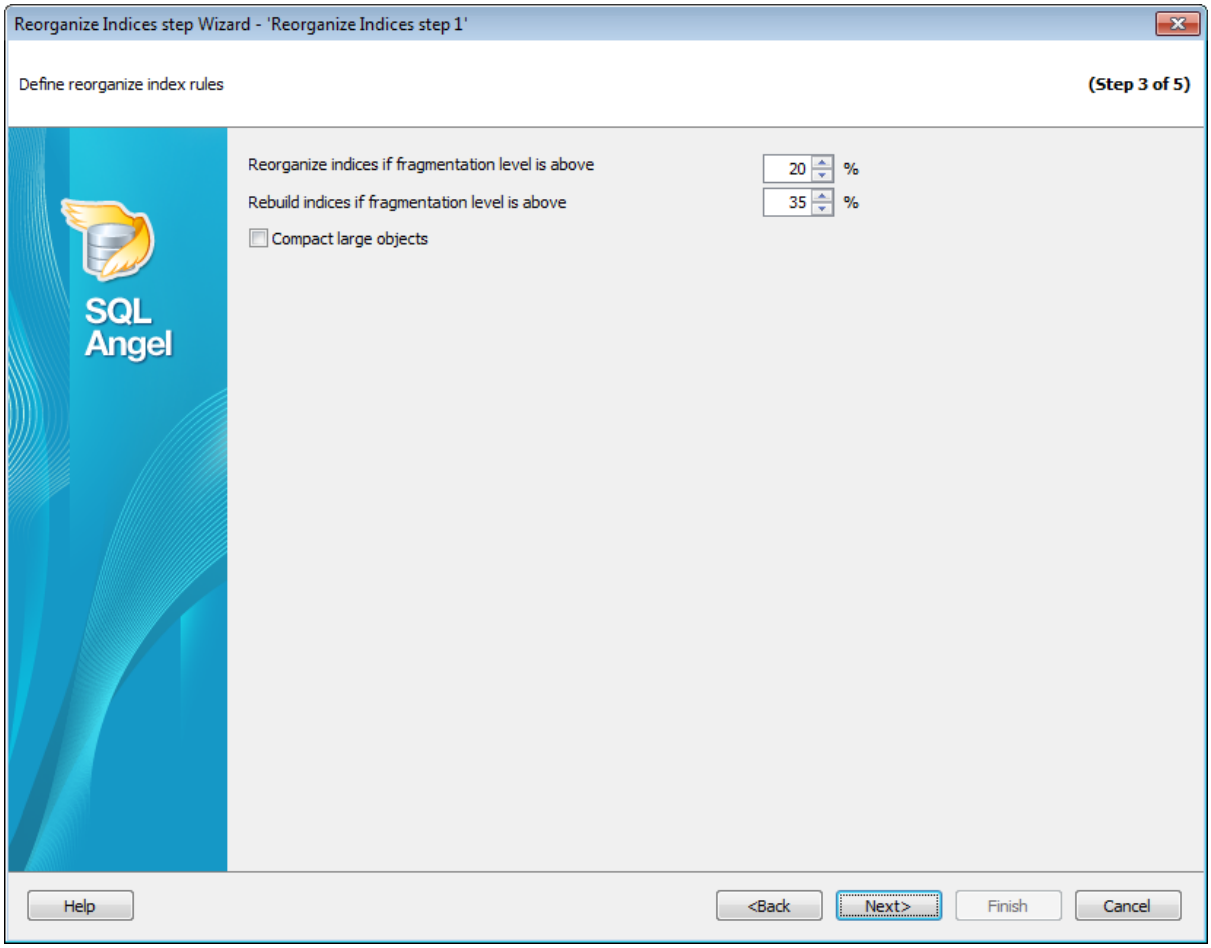
7.1.7.3 Defining rules

At this step of the wizard you can set index reorganization rules.



Reorganize indices if fragmentation level is above
Define the fragmentation limits. Exceeding this limits considers the indices to be reorganized.

Rebuild indices if fragmentation level is above
Define the fragmentation limits. Exceeding this limits considers the indices to be rebuilt.

☑ **Compact large objects**
Enable this option to compact *image*, *text*, *ntext*, *varchar(max)*, *nvarchar(max)*, *varbinary(max)* and *xml* data.

<< Previous step

Next step >>

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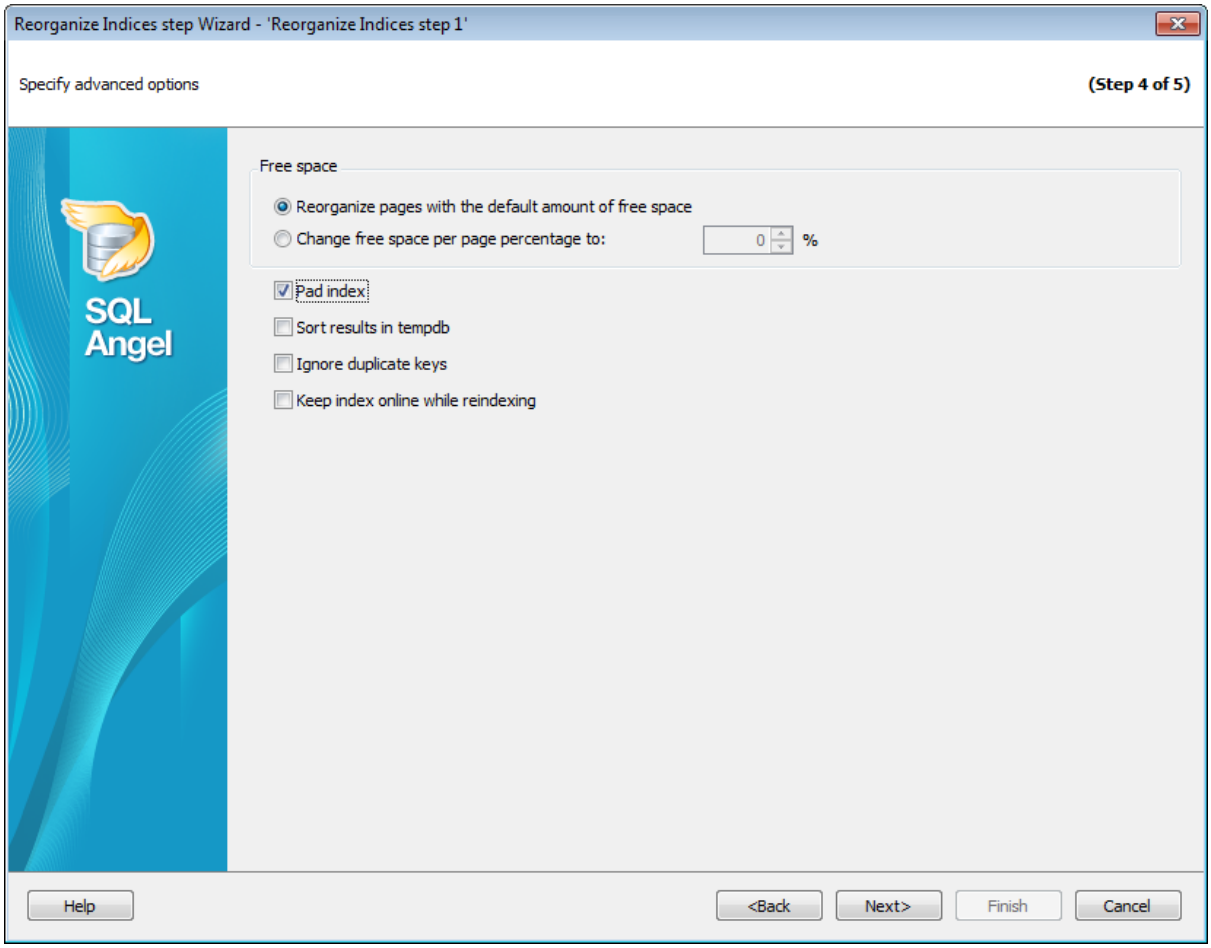
7.1.7.4 Advanced options

This step of the wizard provides a number of advanced options for index reorganizing.



Free space
Define which pages should be reorganized: ones with the **default** or **specified** amount of **free space per page**.

Pad index
Enable this option to leave the space open on each page in the intermediate levels of index.

Sort results in tempdb
This option indicates that intermediate sort results used to rebuild indices will be stored in the tempdb database.

Ignore duplicate keys
If the option is enabled then duplicate keys will be ignored.

Keep index online while reindexing
This option determines whether concurrent user access to the underlying table or clustered index data and any associated non-clustered indexes is allowed while reindexing.

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<< Previous step

Next step >>

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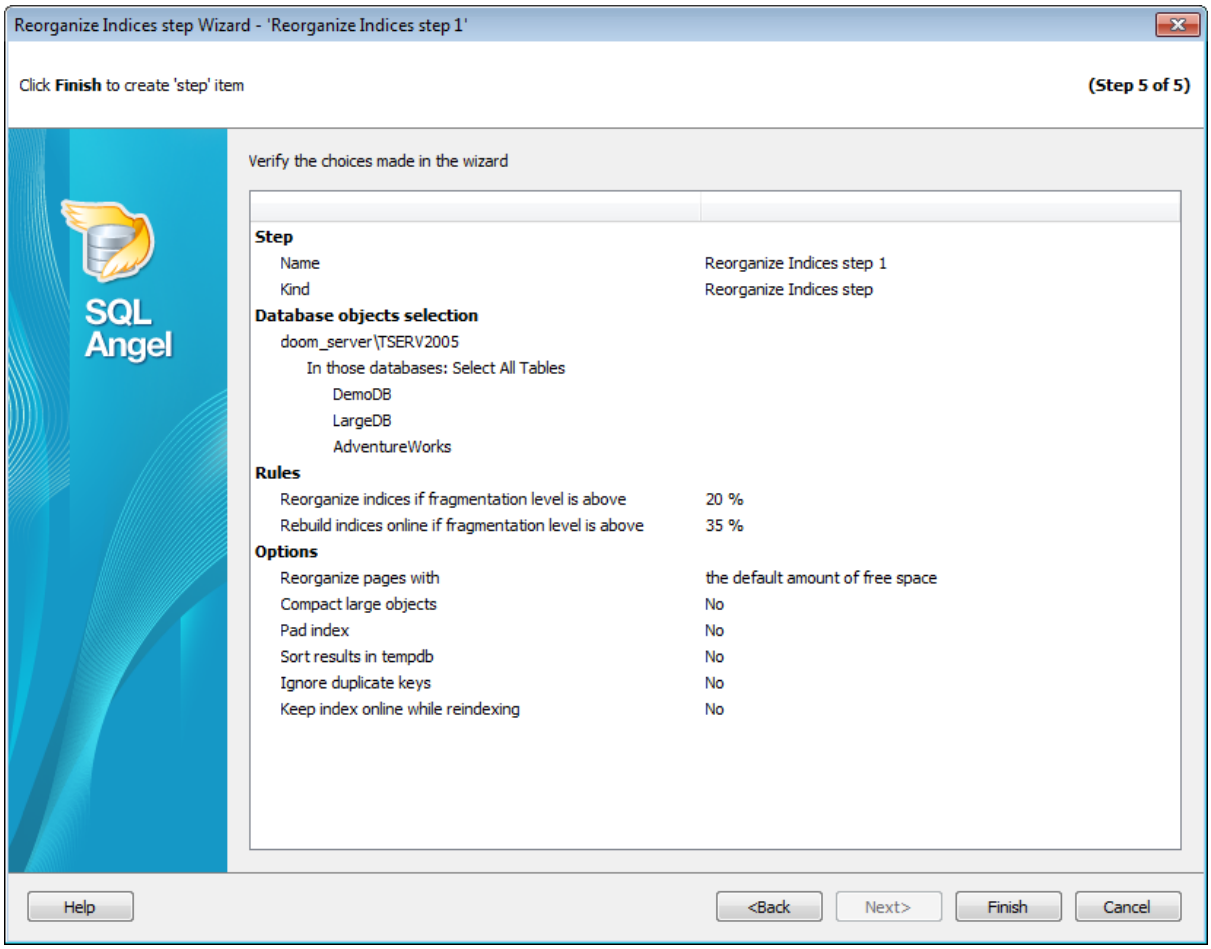
7.1.7.5 Performing operation

This step of the wizard is intended to inform you that all necessary options have been set, and you can start reorganizing indices.



After verifying the choices made in the wizard click the **Finish** button to complete the operation.

[<< Previous step]

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7.1.8 Shrink Database

Shrink Database step allows you to perform database shrinking (the *DBCC SHRINKDATABASE* and *SHRINKFILE* Transact-SQL statements are issued). This operation is used to reduce any file within the database to remove unused pages. Both data and transaction log files can be reduced, or shrunk.

To launch the shrinking operation *immediately* select **Quick Maintenance Actions | Shrink Database** popup menu item in the Servers tab.

To perform *scheduled shrinking* on regular basis you need to include this task into Policy:
1. At Step 2 of the Create Policy wizard click **Create new step** button and select **Shrink Database step** type.
2. Also, you can create a new Step Template for further use selecting **Shrink Database step** at the Templates tab.

Steps of the Shrink Database wizard:
Naming template
Selecting database
Setting options
Performing operation

See also:
Backup Database
Restore Database
Execute SQL Server Agent job
Execute T-SQL statement
History Cleanup
Database Integrity Check
Reorganize Indices
Update Statistics
Database Parameters Logger
Maintenance Cleanup
Transaction Log Shipping

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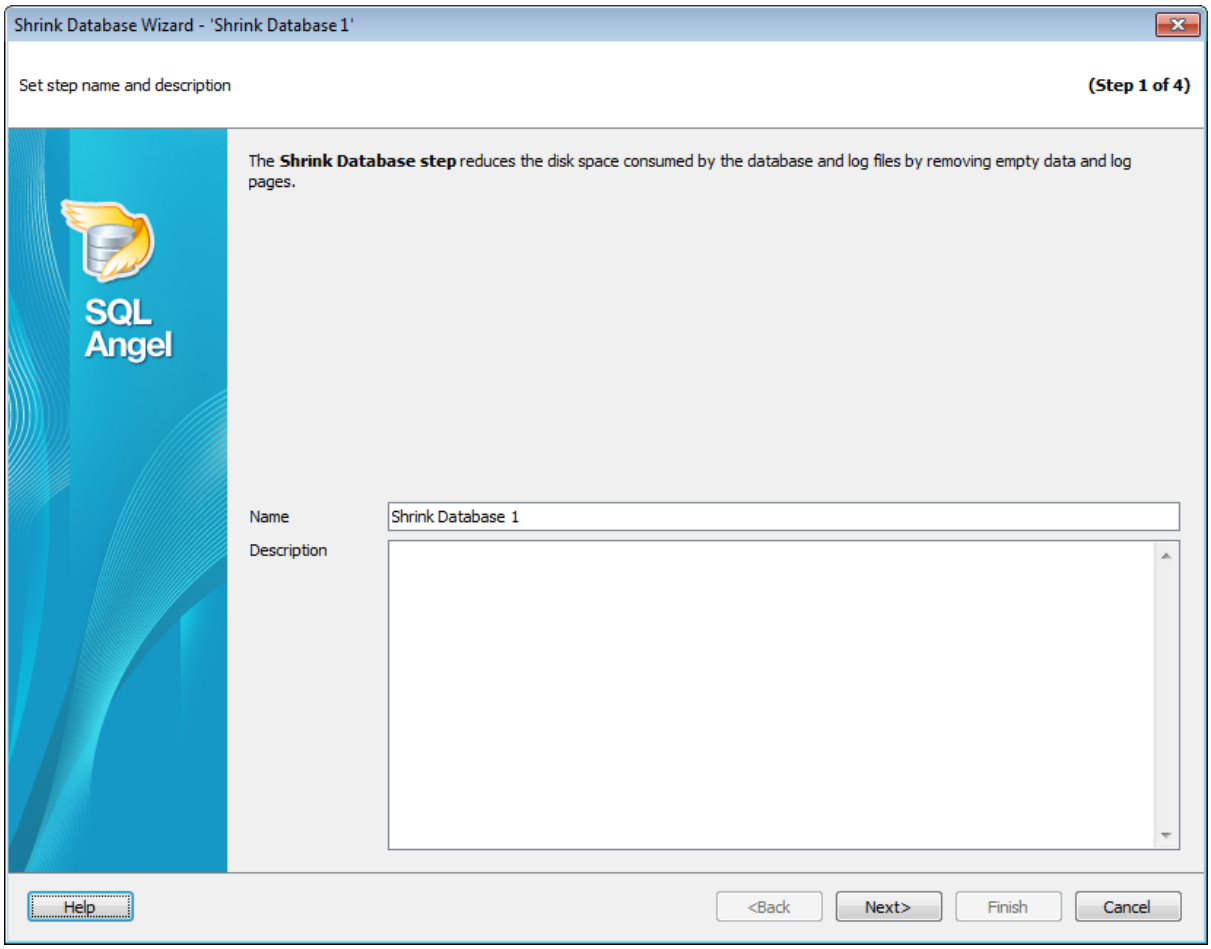
7.1.8.1 Naming step

You can name the step using the **Name** field. The **Description** field can be used to define brief info for the created step.


Shrink Database Wizard - 'Shrink Database 1'
Set step name and description
(Step 1 of 4)
The Shrink Database step reduces the disk space consumed by the database and log files by removing empty data and log pages.
SQL Angel
Name
Shrink Database 1
Description
Help
<Back
Next>
Finish
Cancel

This step does not appear for Quick Maintenance Actions.

Next step >>

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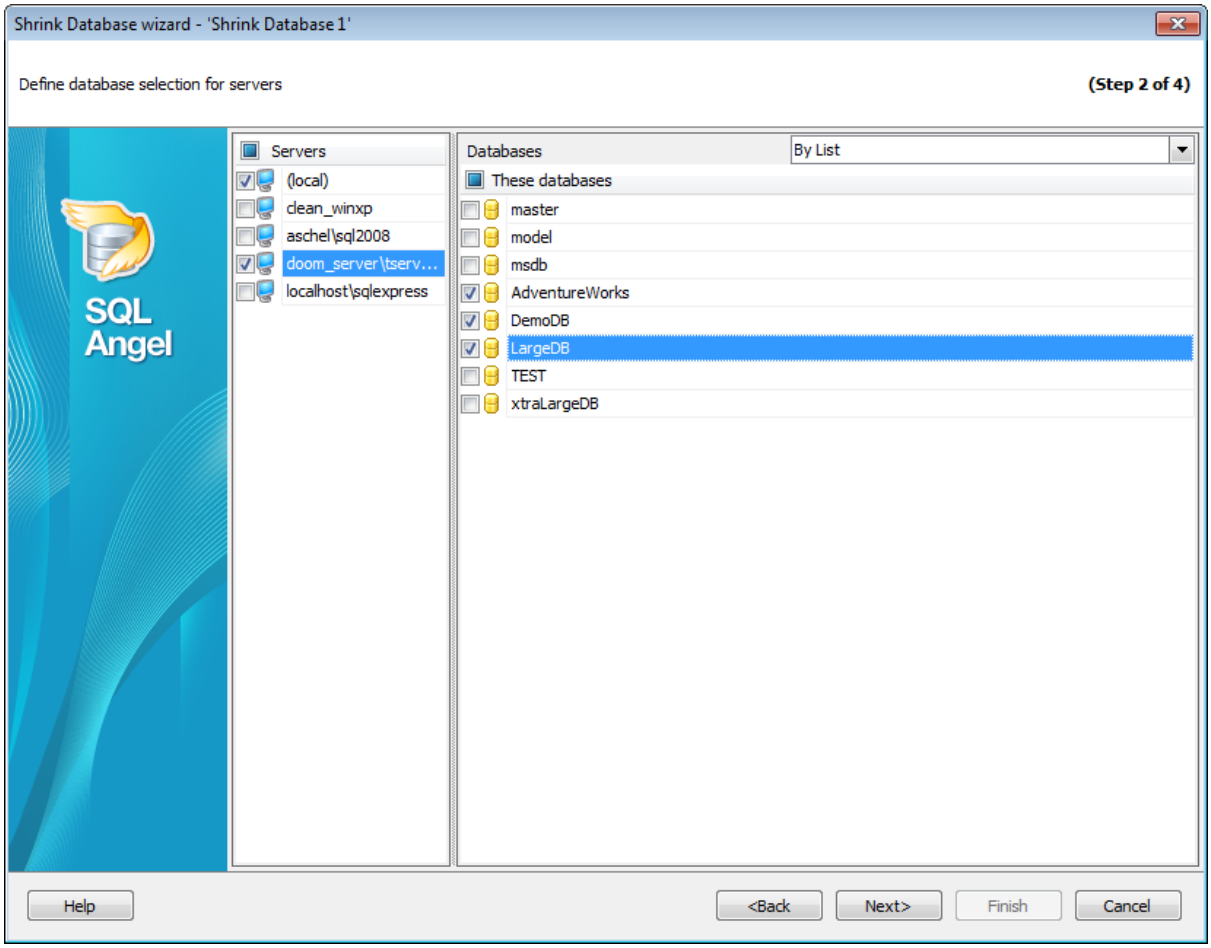
7.1.8.2 Selecting database

Use this step of the wizard to select databases to shrink.



Servers

Select the **servers** to run the operation on. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.

Note: Selecting servers is not available in Template mode.

Databases

All
Use this option to select both: system and user databases.

All system
This option indicates that only system databases should be shrinked.

All user
Select this option to shrink user databases only.

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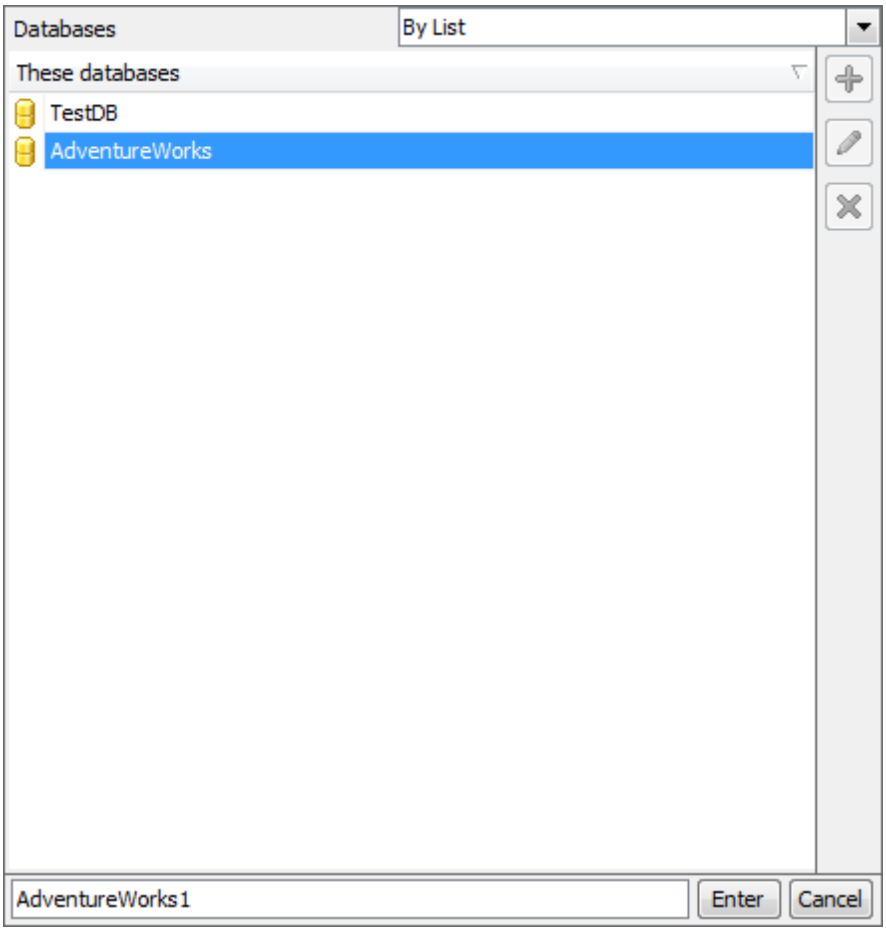
By mask
This option allows defining database selection by mask. Use ***** for a set of any characters and **?** for any single character in the database name.

By list
This option allows you to select databases manually.
If you are creating a step in a policy template then you are able to enter databases manually.



Use the button or *Ins* key to define database name. After you click the *Enter* button the database will be added to the list.

Any database from the list can be edited or deleted.

<< Previous step Next step >>

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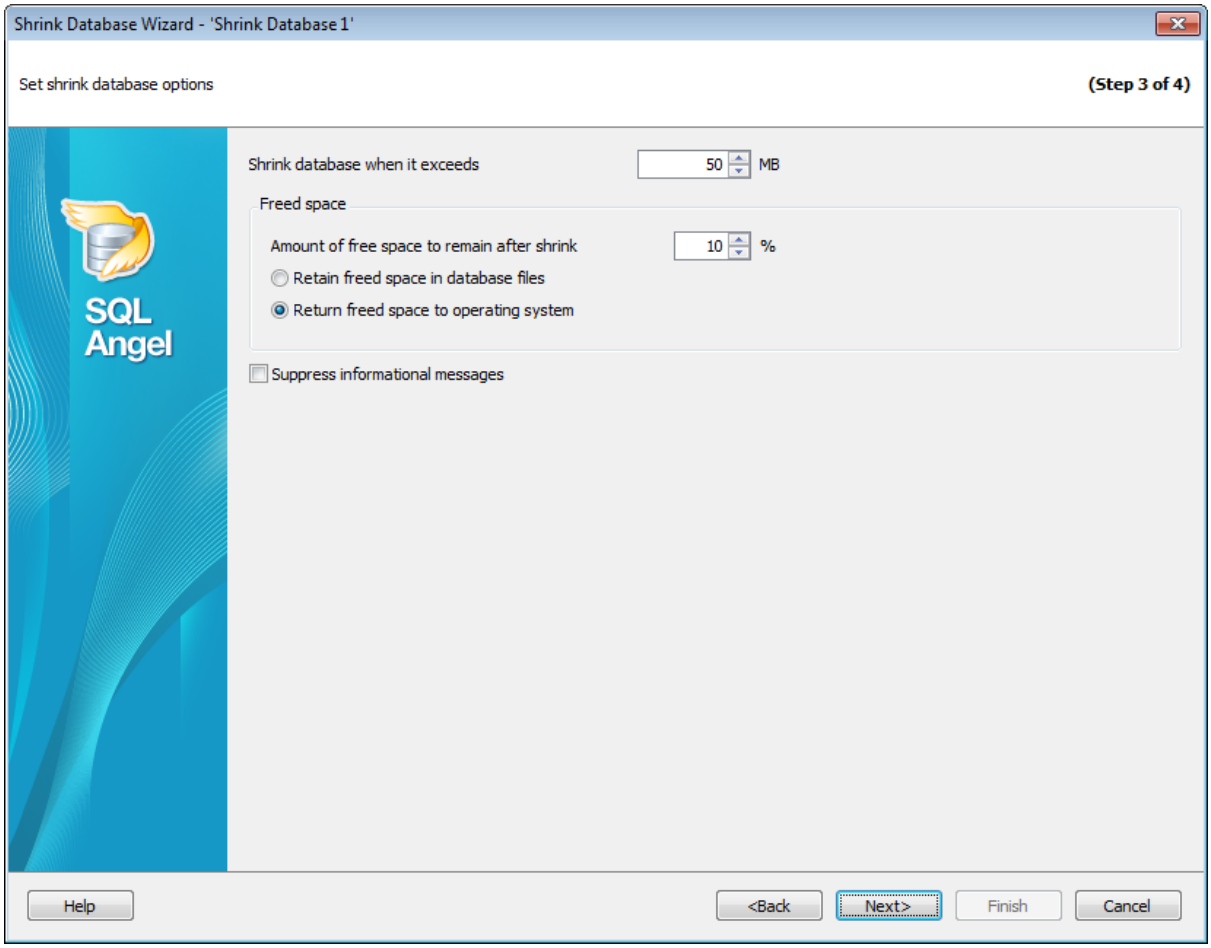
7.1.8.3 Setting options

At this step you can set shrinking options.



Shrink database when it exceeds
Set database size limit. Database will be shrunk when its size goes over this limit.

Freed space
Amount of free space to remain after shrink
Use this field to define percentage of free space that will be left in database file after it is shrunk.

You need to decide whether freed space should be **retained in database files** or **returned to operating system**.

Suppress informational messages
Enable the option to disable informational messages.

<< Previous step Next step >>

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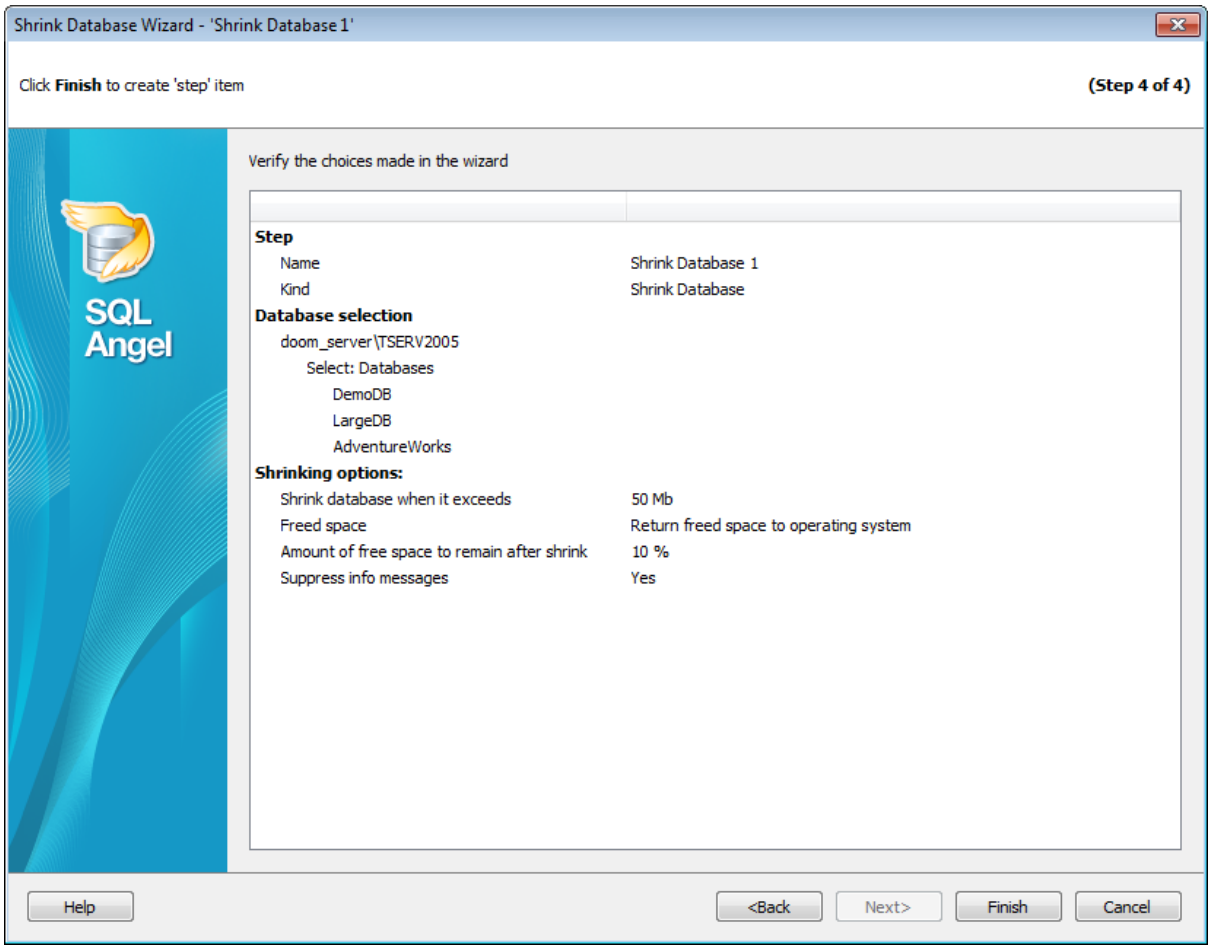
7.1.8.4 Performing operation

This step of the wizard is intended to inform you that all necessary options have been set, and you can start the operation.



After verifying the choices made in the wizard click the **Finish** button to complete the operation.

<< Previous step

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7.1.9 Update Statistics

Update Statistics step allows you to perform the update statistics operation in your database (the *UPDATE STATISTICS* statement is issued). This operation is used to updates the statistics for the specified tables and views.

To launch the updating operation *immediately* select **Quick Maintenance Action | Update Statistics step** popup menu item in the Servers tab.

To perform *scheduled update of statistics* on regular basis you need to include this task into Policy:
1. At Step 2 of the Create Policy wizard click **Create new step** button and select **Update Statistics step** type.
2. Also, you can create a new Step Template for further use selecting **Update Statistics step** at the Templates tab.

Steps of the Update Statistics wizard:
Naming template
Selecting objects
Setting options
Performing operation

See also:
Backup Database
Restore Database
Execute SQL Server Agent job
Execute T-SQL statement
History Cleanup
Database Integrity Check
Reorganize Indices
Shrink Database
Database Parameters Logger
Maintenance Cleanup
Transaction Log Shipping

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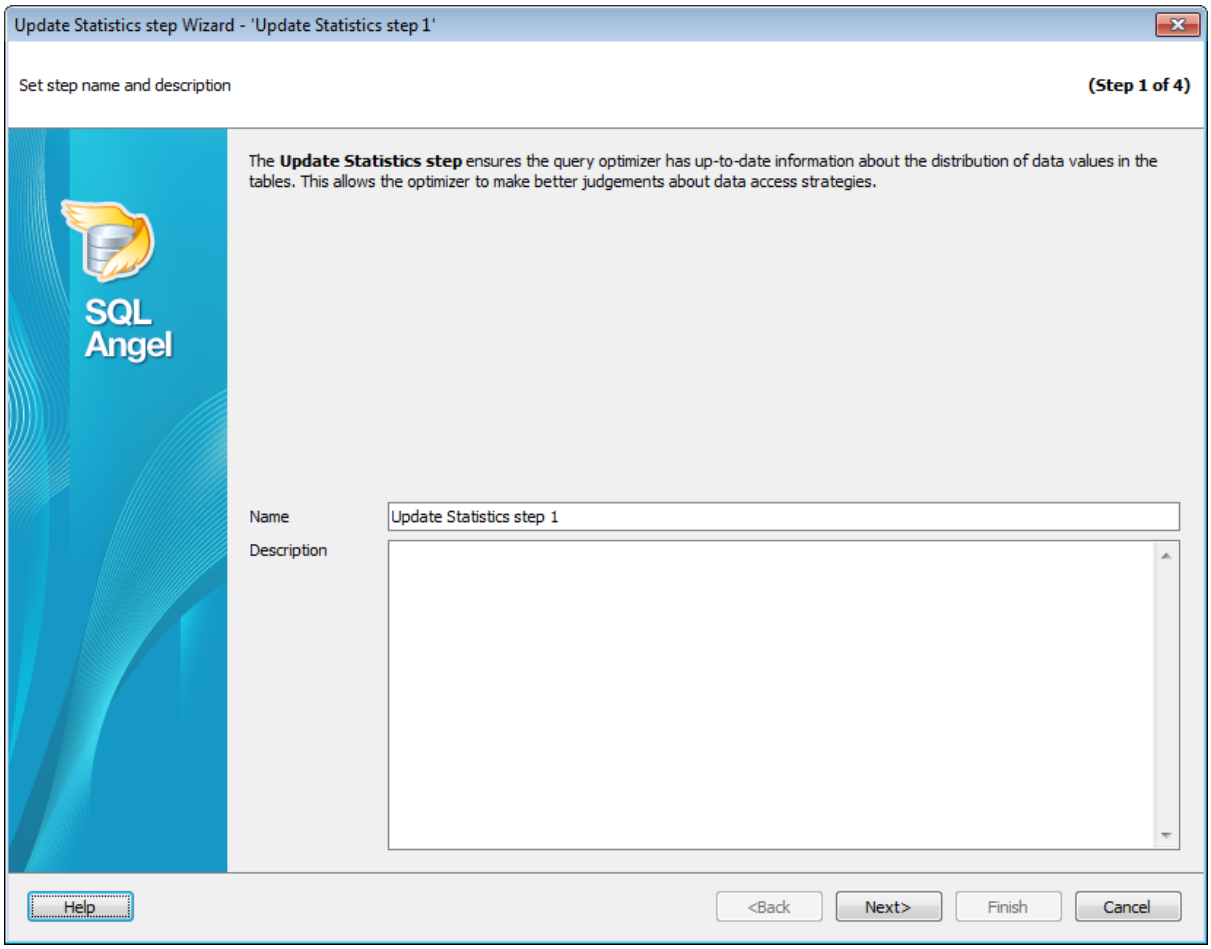
7.1.9.1 Naming step

You can name the step using the **Name** field. The **Description** field can be used to define brief info for the created step.


Update Statistics step Wizard - 'Update Statistics step 1'
Set step name and description
(Step 1 of 4)
SQL Angel
The Update Statistics step ensures the query optimizer has up-to-date information about the distribution of data values in the tables. This allows the optimizer to make better judgements about data access strategies.
Name
Update Statistics step 1
Description
Help
<Back
Next>
Finish
Cancel

This step does not appear for Quick Maintenance Actions.

Next step >>

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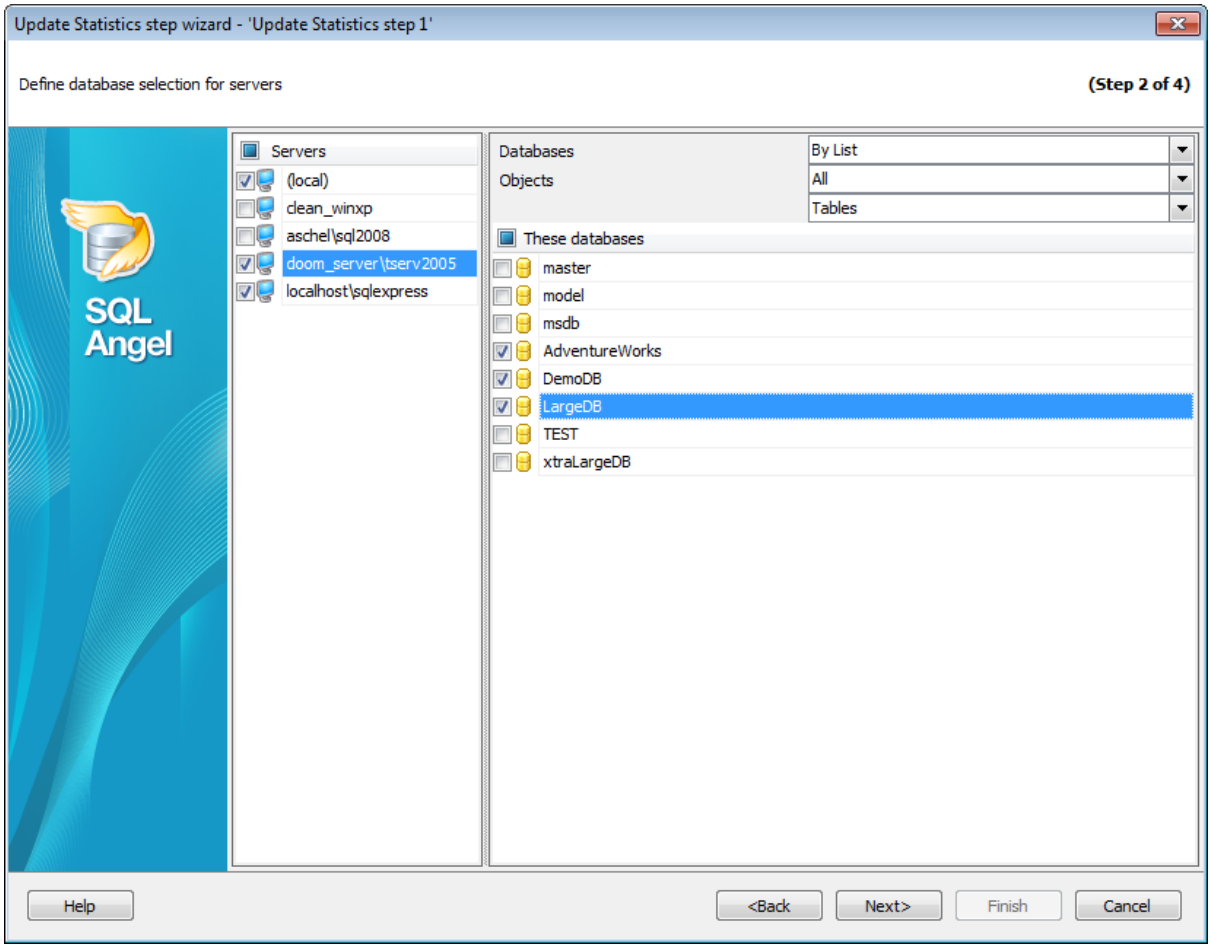
7.1.9.2 Selecting objects

Use this step of the wizard to select objects to update statistics.



Servers

Select the **servers** to run the operation on. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.
Note: Selecting servers is not available in Template mode.

Databases and objects

All
Use this option to select both: system and user objects.

All system
This option indicates that only system objects should be selected.

All user
Select this option to select user objects only.

By mask

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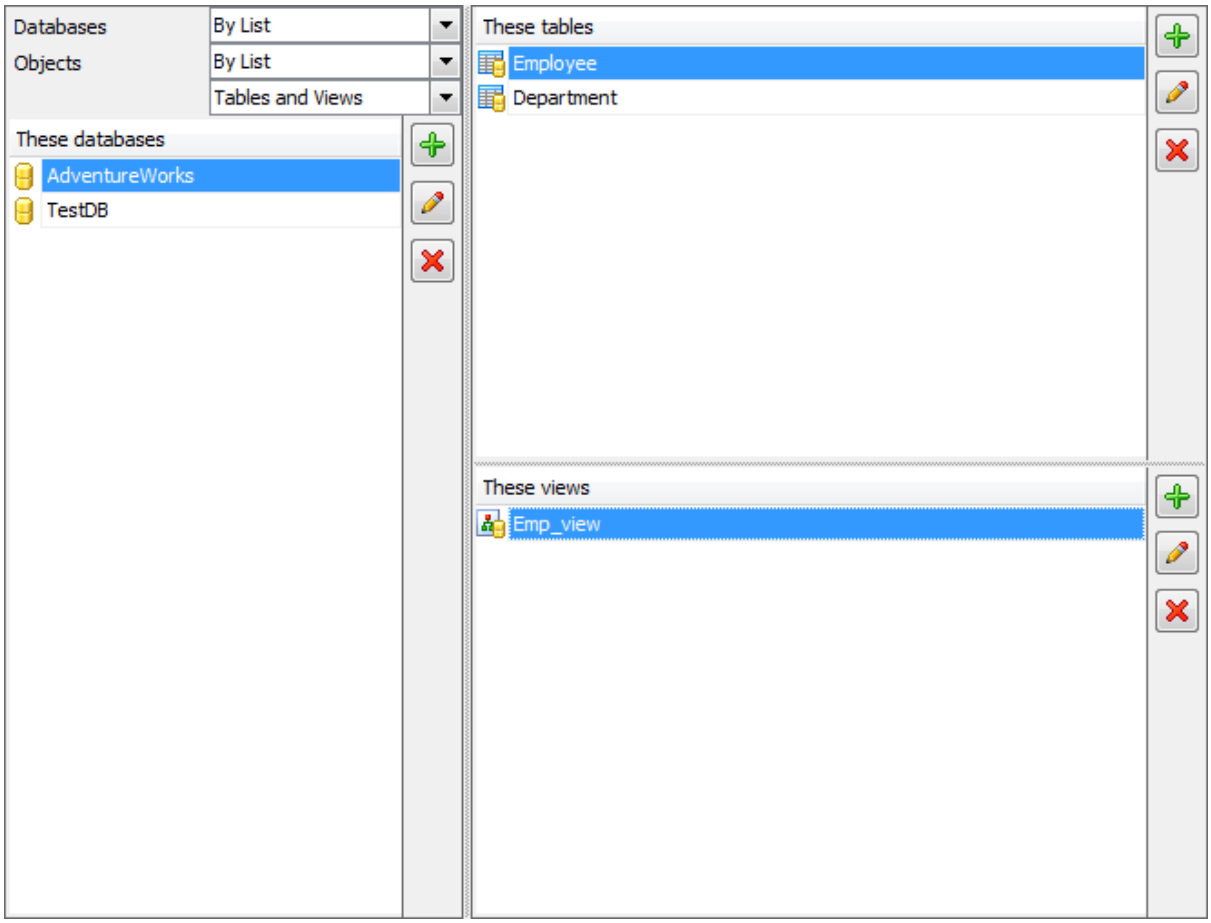
This option allows defining objects selection by mask. Use ***** for a set of any characters and **?** for any single character in the object name.

By list
This option allows you to select objects manually.
If you are creating a step in a policy template then you are able to enter databases, tables and views manually.



Use the button or *Ins* key to define database/table/view name. After you click the *Enter* button the database/table/view will be added to the list.

Any database/table/view from the list can be edited or deleted.

<< Previous step

Next step >>

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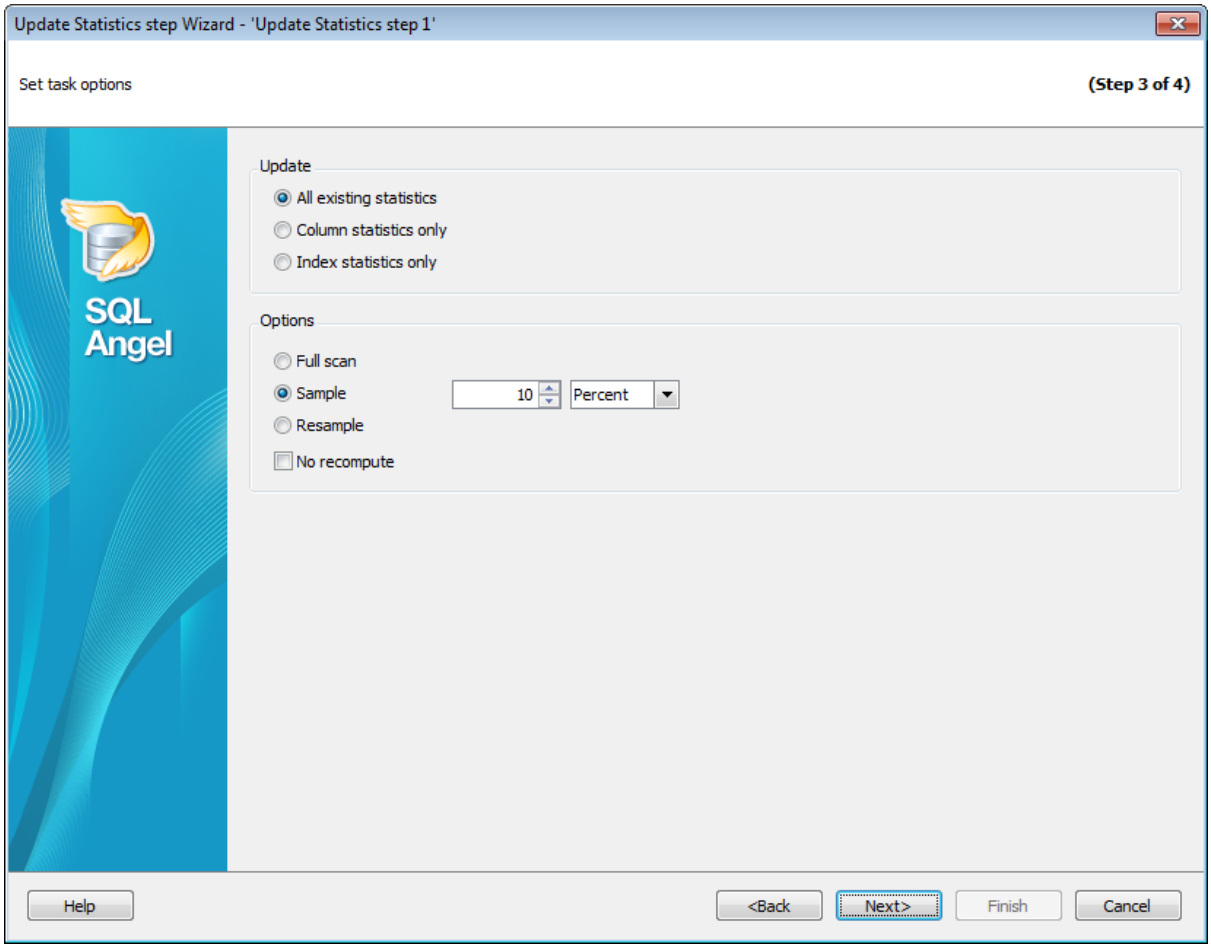
7.1.9.3 Setting options

Use this step to define basic update statistics options.



Update

All existing statistics
Select this option if you need to update all statistics.

Column statistics only
Use this option to update column statistics only.

Index statistics only
This option indicates that only index statistics will be updated.

Options

Full scan
Specifies that all rows in table or view should be read to gather the statistics. This option provides the same behavior as **Sample 100 Percent**.

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Sample
Specifies the percentage of the table or indexed view, or the number of rows to sample when collecting statistics for larger tables or views.

Resample
Option specifies that statistics will be gathered using an inherited sampling ratio for all existing statistics including indexes. If the sampling ratio results in too few rows being sampled, SQL Server automatically corrects the sampling based on the number of existing rows in the table or view.

No recompute
Disable the option to recompute statistics that become out of date automatically.

<< Previous step Next step >>

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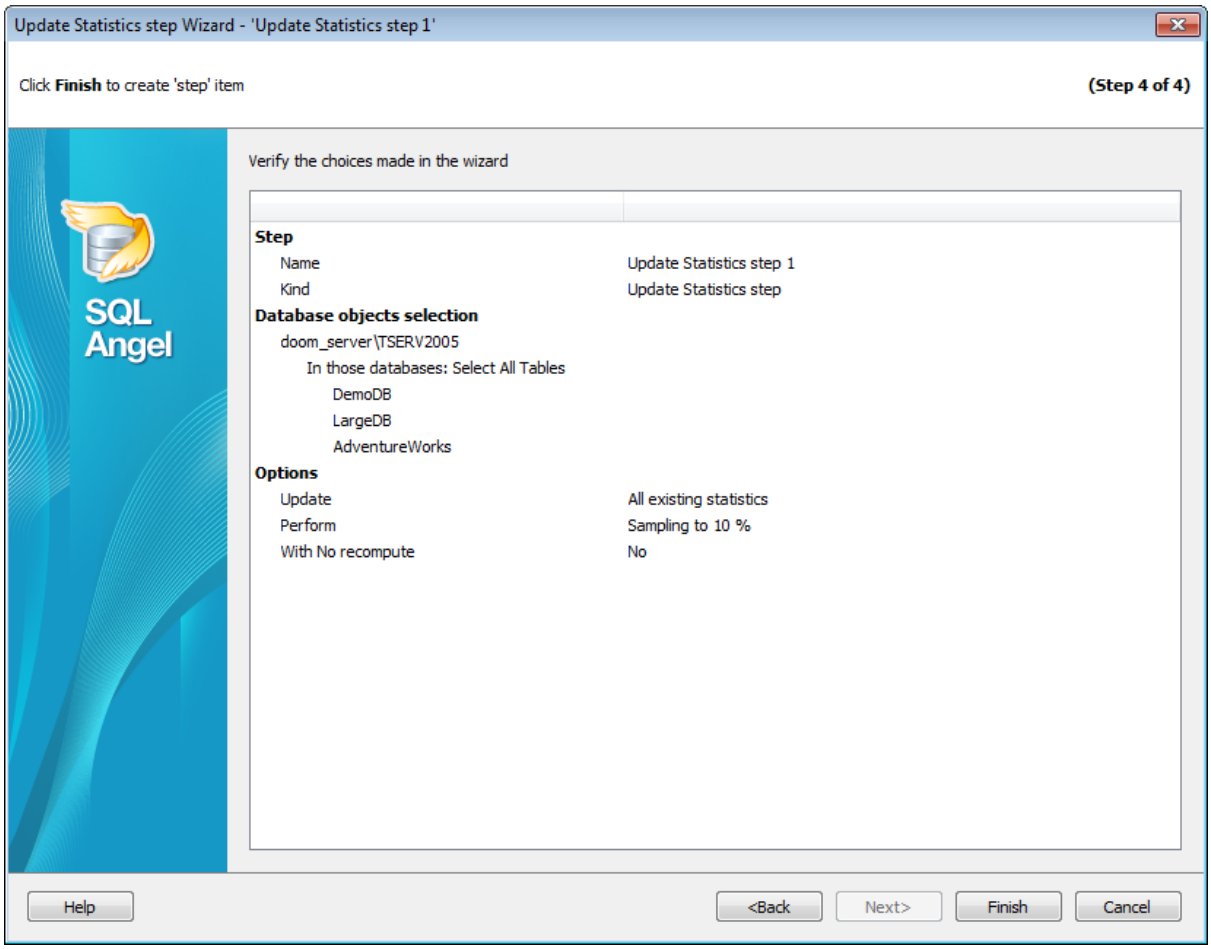
7.1.9.4 Performing operation

This step of the wizard is intended to inform you that all necessary options have been set, and you can start updating statistics.



After verifying the choices made in the wizard click the **Finish** button to complete the operation.

<< Previous step

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7.1.10 Database Parameters Logger

Database Parameters Logger step allows you to check database parameters (such as information about backups, index fragmentation, transaction logs, data files, integrity check operations and more) and log warnings if parameters do not satisfy given conditions for efficient database maintenance.

To launch the database parameters logger operation *immediately* select **Quick Maintenance Actions | Database Parameters Logger** popup menu item in the Servers tab.

To perform *scheduled database parameters logging* on regular basis you need to include this task into Policy:
1. At Step 2 of the Create Policy wizard click **Create new step** button and select **Database Parameters Logger step** type.
2. Also, you can create a new Step Template for further use selecting **Database Parameters Logger step** at the Templates tab.

Steps of the Database Parameters Logger wizard:
Naming template
Selecting database
Setting conditions
Performing operation

See also:
Backup Database
Restore Database
Execute SQL Server Agent job
Execute T-SQL statement
History Cleanup
Database Integrity Check
Reorganize Indices
Shrink Database
Update Statistics
Maintenance Cleanup
Transaction Log Shipping

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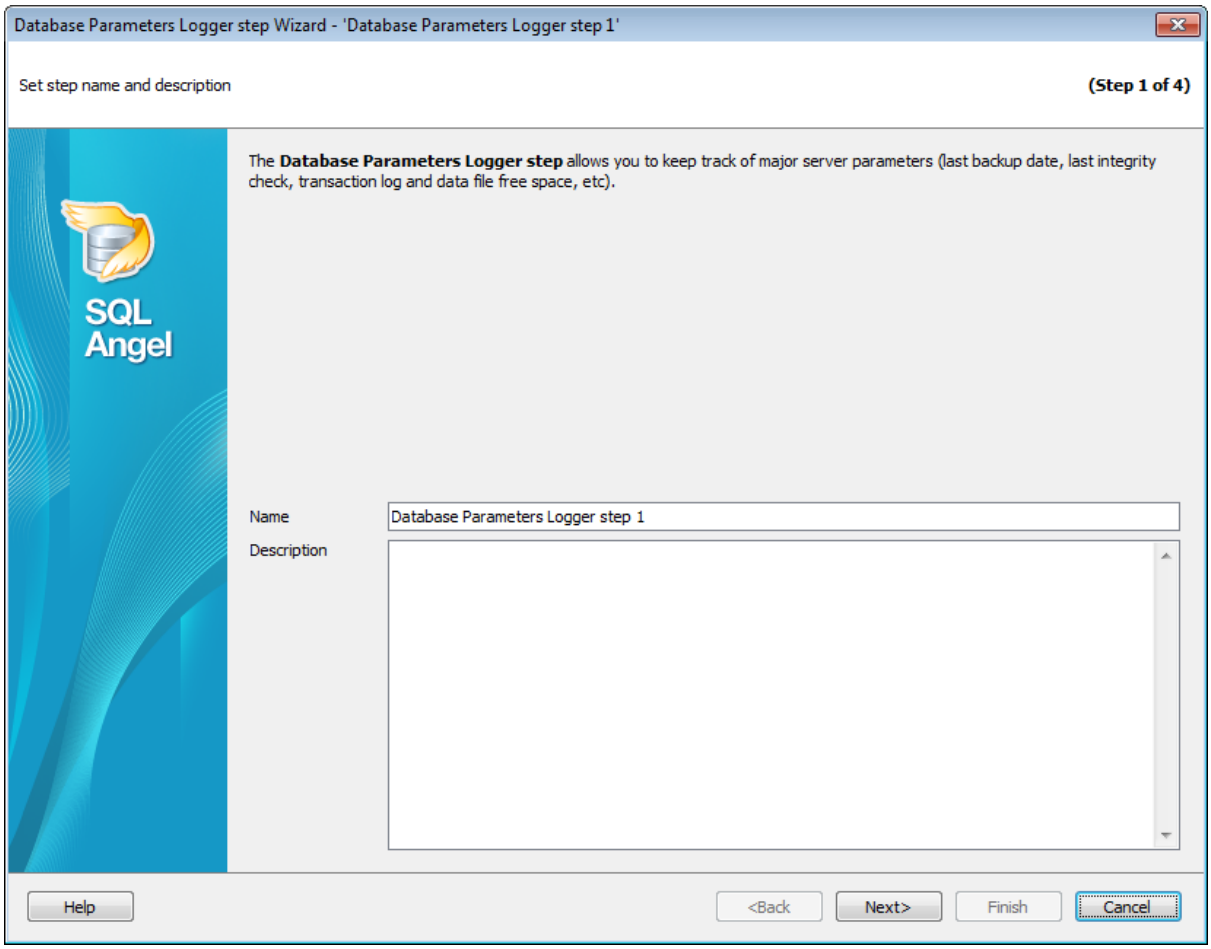
7.1.10.1 Naming step

You can name the step using the **Name** field. The **Description** field can be used to define brief info for the created step.


Database Parameters Logger step Wizard - 'Database Parameters Logger step 1'
Set step name and description
(Step 1 of 4)
SQL Angel
The Database Parameters Logger step allows you to keep track of major server parameters (last backup date, last integrity check, transaction log and data file free space, etc).
Name
Database Parameters Logger step 1
Description
Help
<Back
Next>
Finish
Cancel

This step does not appear for Quick Maintenance Actions.

Next step >>

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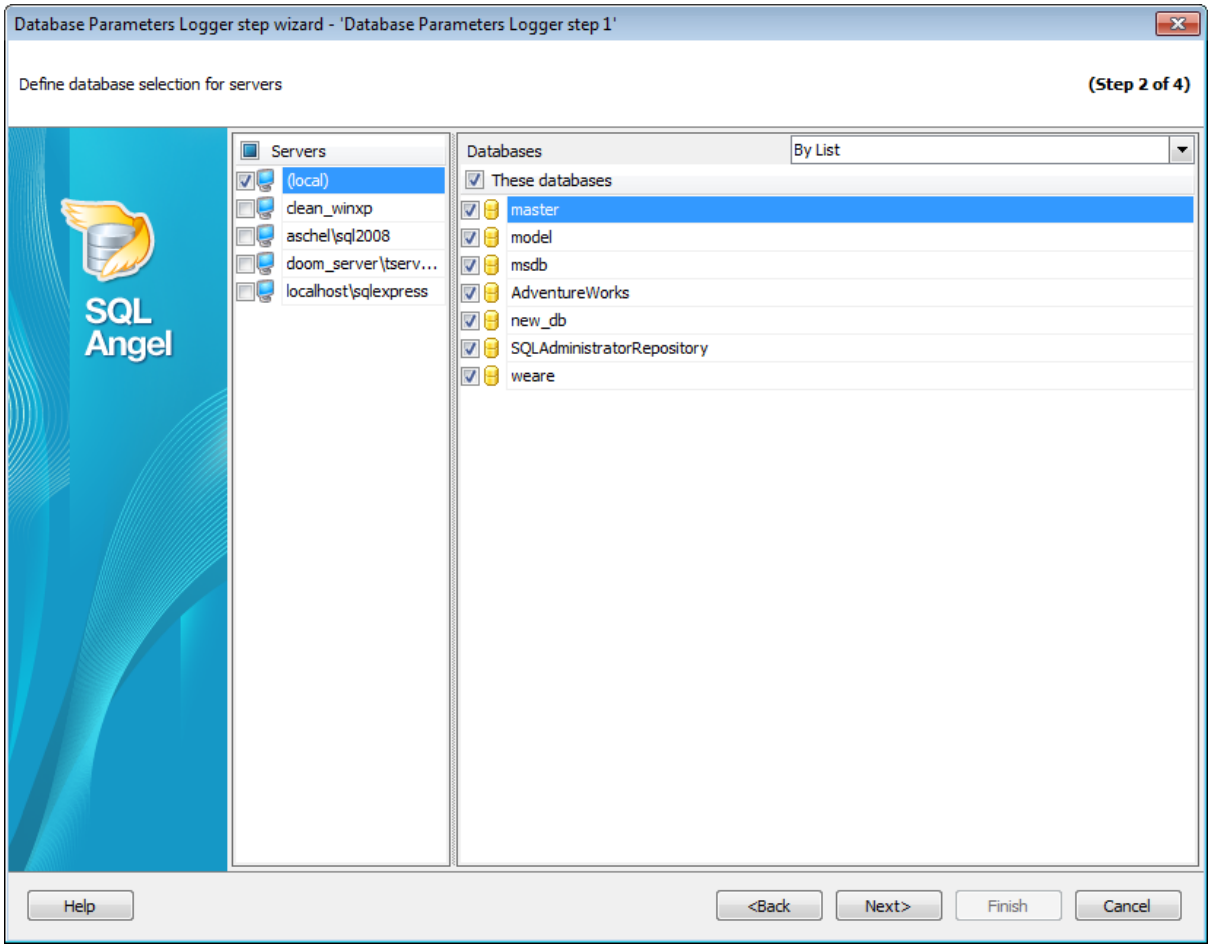
7.1.10.2 Selecting database

Use this step of the wizard to select databases to update statistics.



Servers

Select the **servers** to run the operation on. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.

Note: Selecting servers is not available in Template mode.

Databases and objects

All
Use this option to select both: system and user objects.

All system
This option indicates that only system objects should be selected.

All user
Select this option to select user objects only.

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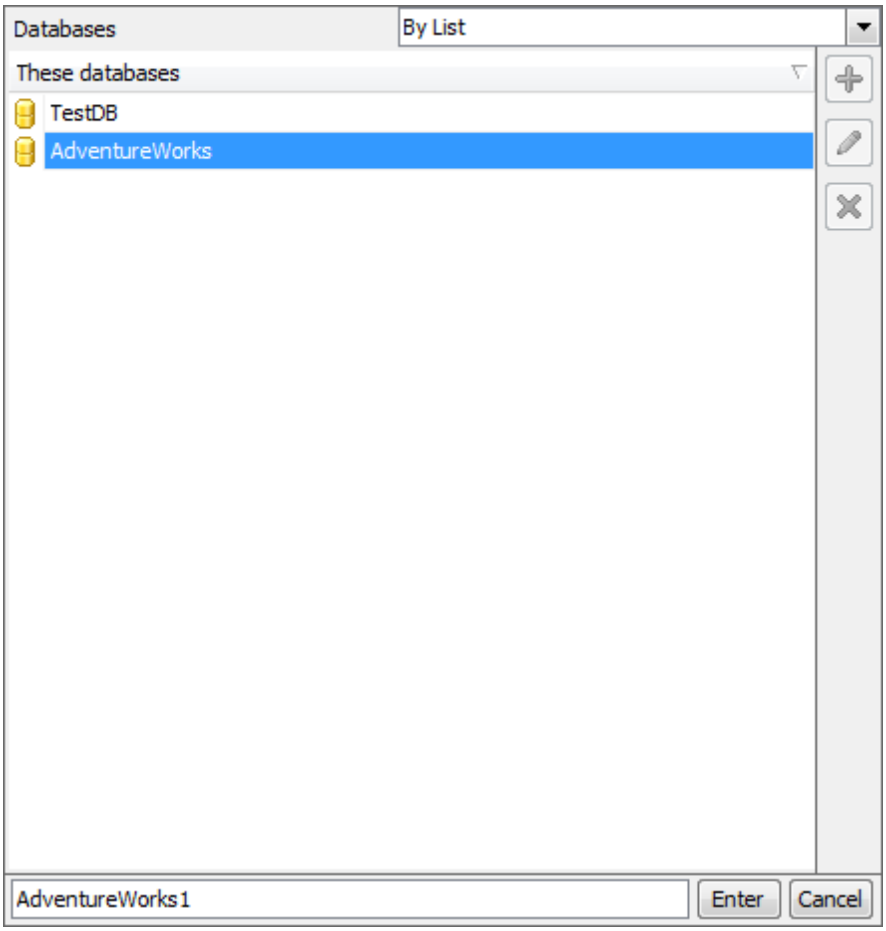
By mask
This option allows defining objects selection by mask. Use ***** for a set of any characters and **?** for any single character in the object name.

By list
This option allows you to select objects manually.
If you are creating a step in a policy template then you are able to enter databases manually.



Use the button or *Ins* key to define database name. After you click the *Enter* button the database will be added to the list.

Any database from the list can be edited or deleted.

[<< Previous step](#) [Next step >>](#)

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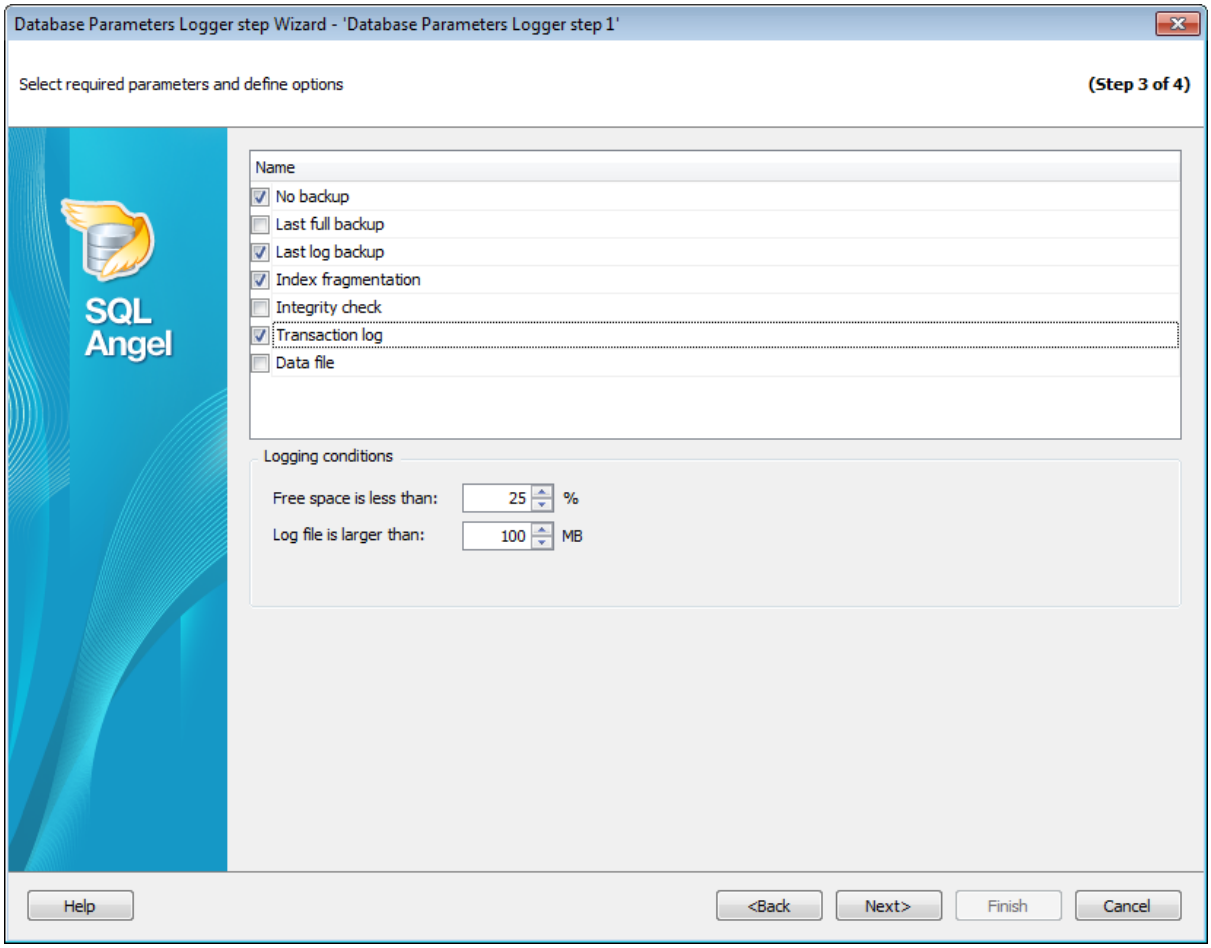
7.1.10.3 Setting conditions

This step allows you to define events to be logged.



The options below allow you to define conditions which SQL Angel should perform logging by.

☑ **No backup**
Enable this option to log the list of databases with no backup.

☑ **Last full backup**
The option should be used to log the list of databases with old full backups.

Last full backup older than
Defines the time point relatively to current date. The list of databases with full backup made before this point will be logged.

☑ **Last log backup**
Use this option to log the list of databases with old log backups.

Last log backup older than
Define the time point relatively to current date. The list of databases with log backup

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made before this point will be logged.

Index fragmentation
Enable this option to log the list of databases with high fragmentation.

Index fragmentation more than
Define the level of index fragmentation. Databases list with index fragmentation level above specified will be added to log.

Only check indices with more than
This option indicates that only indices with page amount above specified will be checked.

Integrity check (SQL Server 2005 or higher)
Enable this option to log the list of databases with out-of-date integrity check.

Last integrity check older than
Define the time point relatively to current date. The list of databases with integrity check made before this point will be added to log.

Transaction log
Enable this option to log the list of databases with transaction log free space below the specified limit.

Free space is less than
This option defines transaction log free space limit. Log includes list of databases with amount of free space less than this limit.

Log file is larger than
This option adds log file size condition. List of databases which transaction log file is larger than the specified limit will be included to log.

Data file
This option indicates that log should include databases with data file free space below the specified limit.

Free space is less than
Use this option to define the data file free space limit.

Data file is larger than
Use this option to define data file size condition. Databases which data file is above this limit will be added to log.

<< Previous step Next step >>

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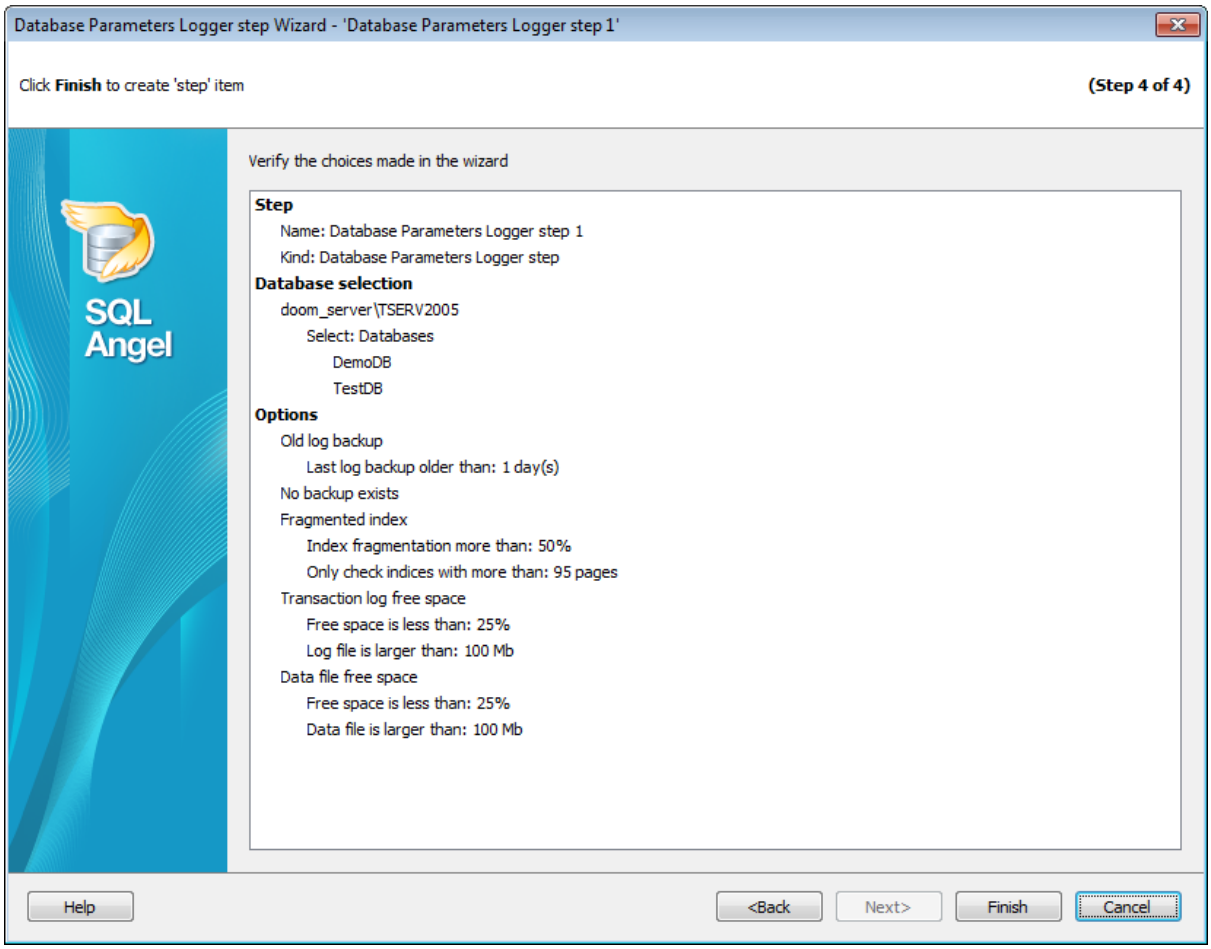
7.1.10.4 Performing operation

This step of the wizard is intended to inform you that all necessary options have been set, and you can start logging database parameters.


Database Parameters Logger step Wizard - 'Database Parameters Logger step 1'
Click Finish to create 'step' item
(Step 4 of 4)
SQL Angel
Verify the choices made in the wizard
Step
Name: Database Parameters Logger step 1
Kind: Database Parameters Logger step
Database selection
doom_server\TSERV2005
Select: Databases
DemoDB
TestDB
Options
Old log backup
Last log backup older than: 1 day(s)
No backup exists
Fragmented index
Index fragmentation more than: 50%
Only check indices with more than: 95 pages
Transaction log free space
Free space is less than: 25%
Log file is larger than: 100 Mb
Data file free space
Free space is less than: 25%
Data file is larger than: 100 Mb
Help
<Back
Next>
Finish
Cancel

After verifying the choices made in the wizard click the **Finish** button to complete the operation.

[<< Previous step]

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7.1.11 Maintenance Cleanup

Maintenance Cleanup step allows you to cleanup SQL Angel and SQL Server backups and Maintenance plan reports, created by MS SQL Server. This step is not available for SQL Server 2000.

To launch the updating operation *immediately* select **Quick Maintenance Actions | Maintenance Cleanup** popup menu item in the Servers tab.

To perform *scheduled maintenance cleanup* on regular basis you need to include this task into Policy:
1. At Step 2 of the Create Policy wizard click **Create new step** button and select **Maintenance Cleanup step** type.
2. Also, you can create a new Step Template for further use selecting **Maintenance Cleanup step** at the Templates tab.

Steps of the Maintenance Cleanup wizard:
Naming template
Selecting files/folders for cleanup
Defining cleanup criteria
Performing operation

See also:
Backup Database
Restore Database
Execute SQL Server Agent job
Execute T-SQL statement
History Cleanup
Database Integrity Check
Reorganize Indices
Shrink Database
Update Statistics
Database Parameters Logger
Transaction Log Shipping

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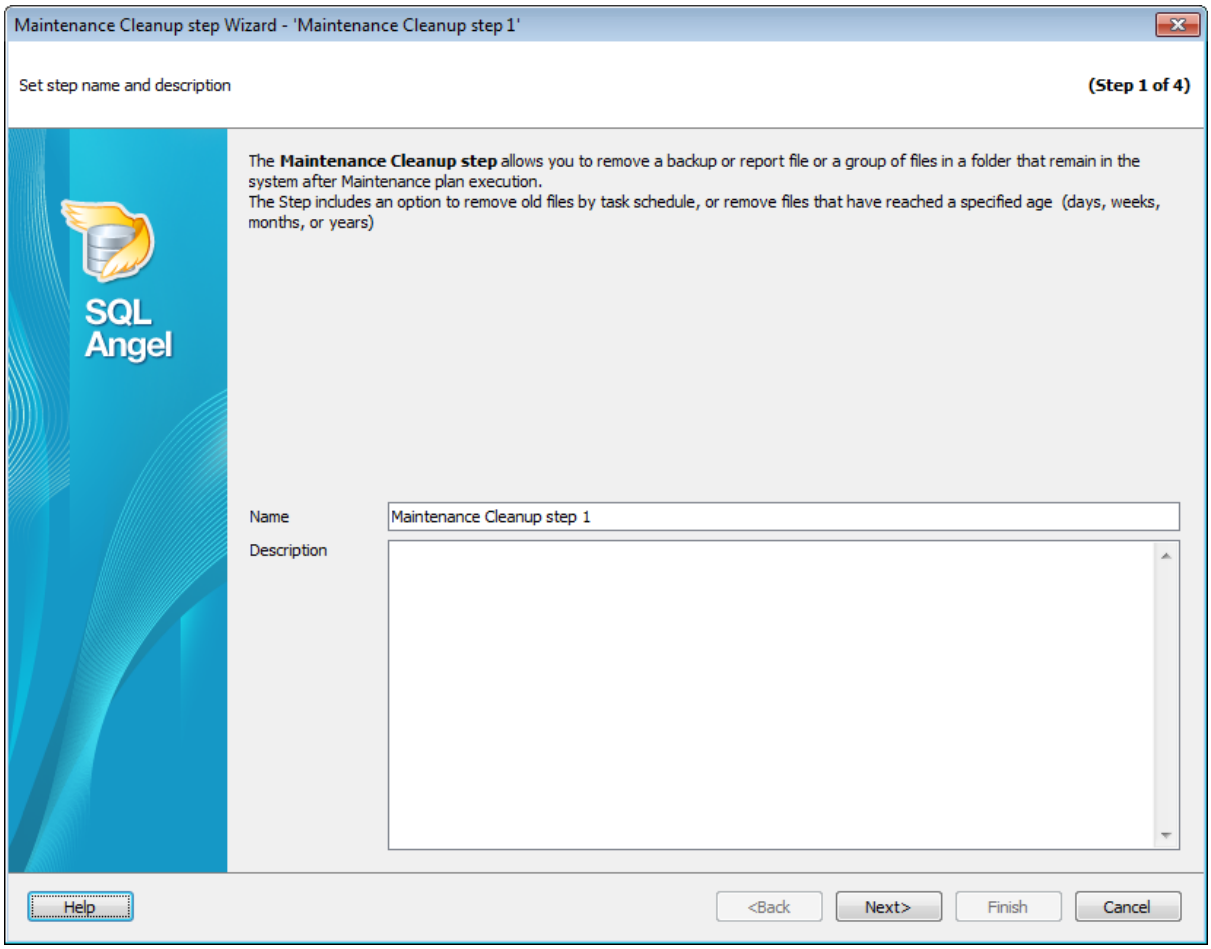
7.1.11.1 Naming step

You can name the step using the **Name** field. The **Description** field can be used to define brief info for the created step.


Maintenance Cleanup step Wizard - 'Maintenance Cleanup step 1'
Set step name and description
(Step 1 of 4)
SQL Angel
The Maintenance Cleanup step allows you to remove a backup or report file or a group of files in a folder that remain in the system after Maintenance plan execution.
The Step includes an option to remove old files by task schedule, or remove files that have reached a specified age (days, weeks, months, or years)
Name
Maintenance Cleanup step 1
Description
Help
<Back
Next>
Finish
Cancel

This step does not appear for Quick Maintenance Actions.

Next step >>

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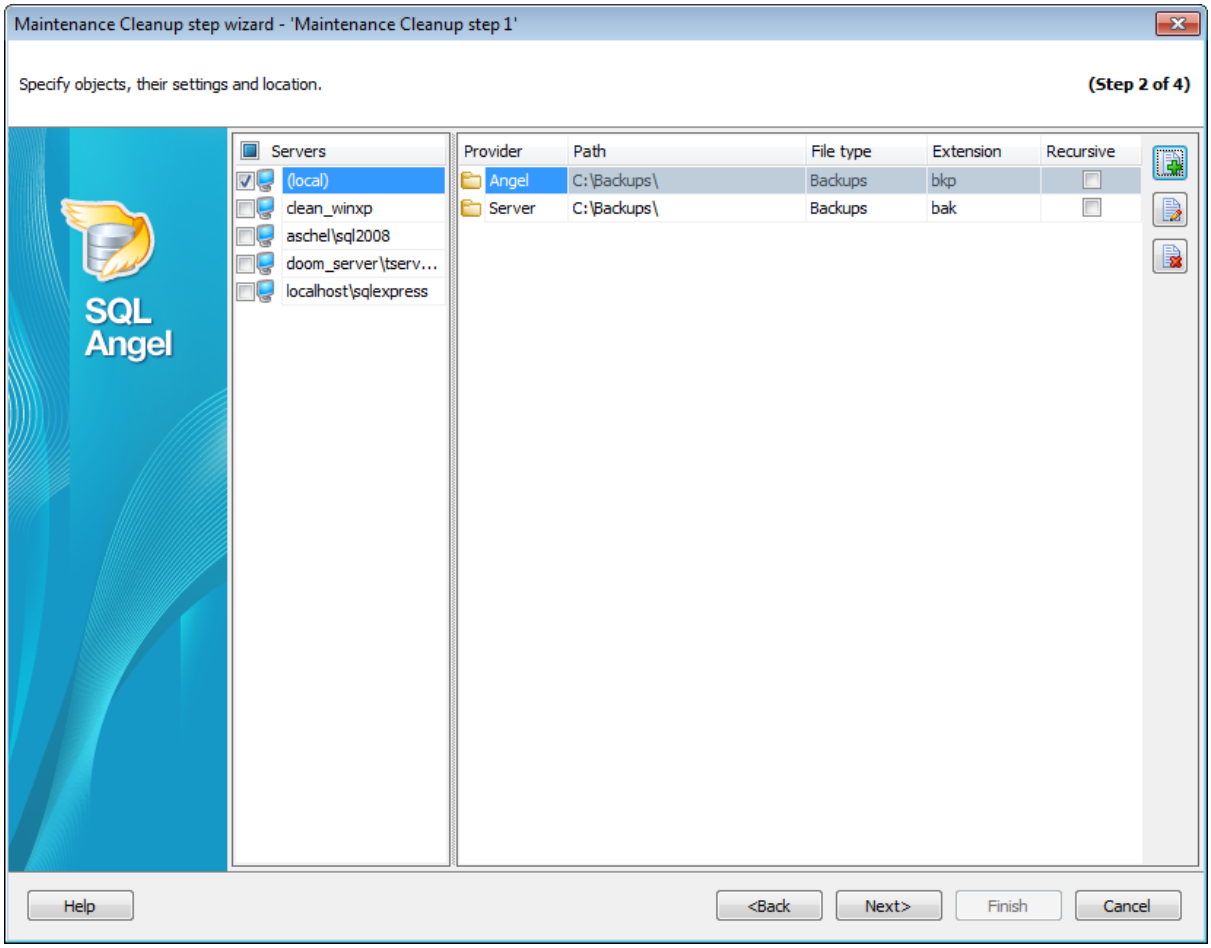
7.1.11.2 Selecting files/folders for cleanup

At this step you need to define server(s) and file and/or folder selection for them.



Servers
Select the **servers** to run the operation on. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.

Note: Selecting servers is not available in Template mode.

Use **Add file or folder specification** to add a cleanup destination and **Edit specification**, **Remove selected** specification for appropriate actions.

Cleanup specification

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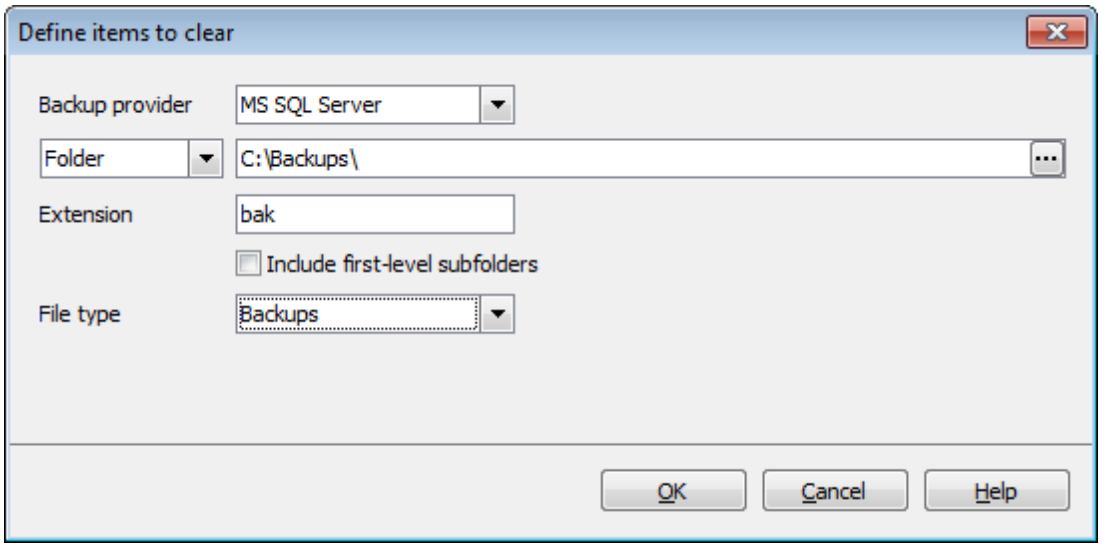

Backup provider
Select whether the files created by *SQL Angel* or *SQL Server* will be cleaned.

Folder
Set the search folder for the files. The path is set relatively to the server which you selected in the Server list.

If the *MS SQL Server* has been selected as a **Backup provider** then you can define the path and name of the specific backup **File** to be deleted.

Extension
Specify the custom extension for backup or report files if it differs from the default.

Enable ☑ **Include subfolders** option if you need to cleanup all sub-folders of the specified folder.

File type
Use this drop-down list to specify the the type of files to be deleted:
- *Backups* - backup files;
- *Reports* - text reports of previously run maintenance plans.

Note: This drop-down list is available if the *MS SQL Server* has been selected as a **Backup provider**.

<< Previous step Next step >>

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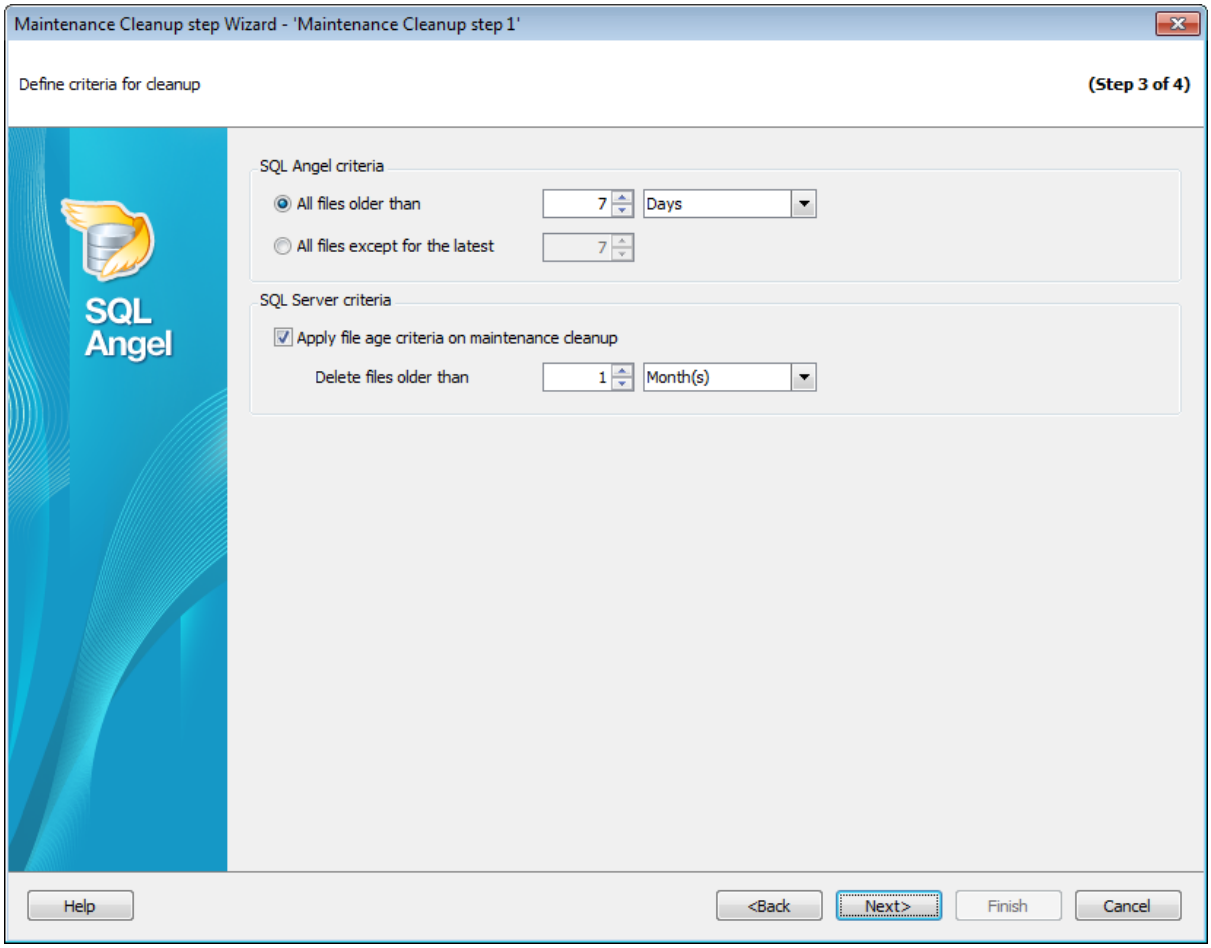
7.1.11.3 Defining cleanup criteria

This step allows you to define cleanup criteria.



SQL Angel criteria

Set the conditions for SQL Angel backup files to be deleted. Use *All files older than* for time limiting or *All files except latest* criteria to specify the number of the latest backups to keep.

SQL Server criteria

Apply file age criteria on maintenance cleanup
Use this option to delete files above the age specified below.

<< Previous step Next step >>

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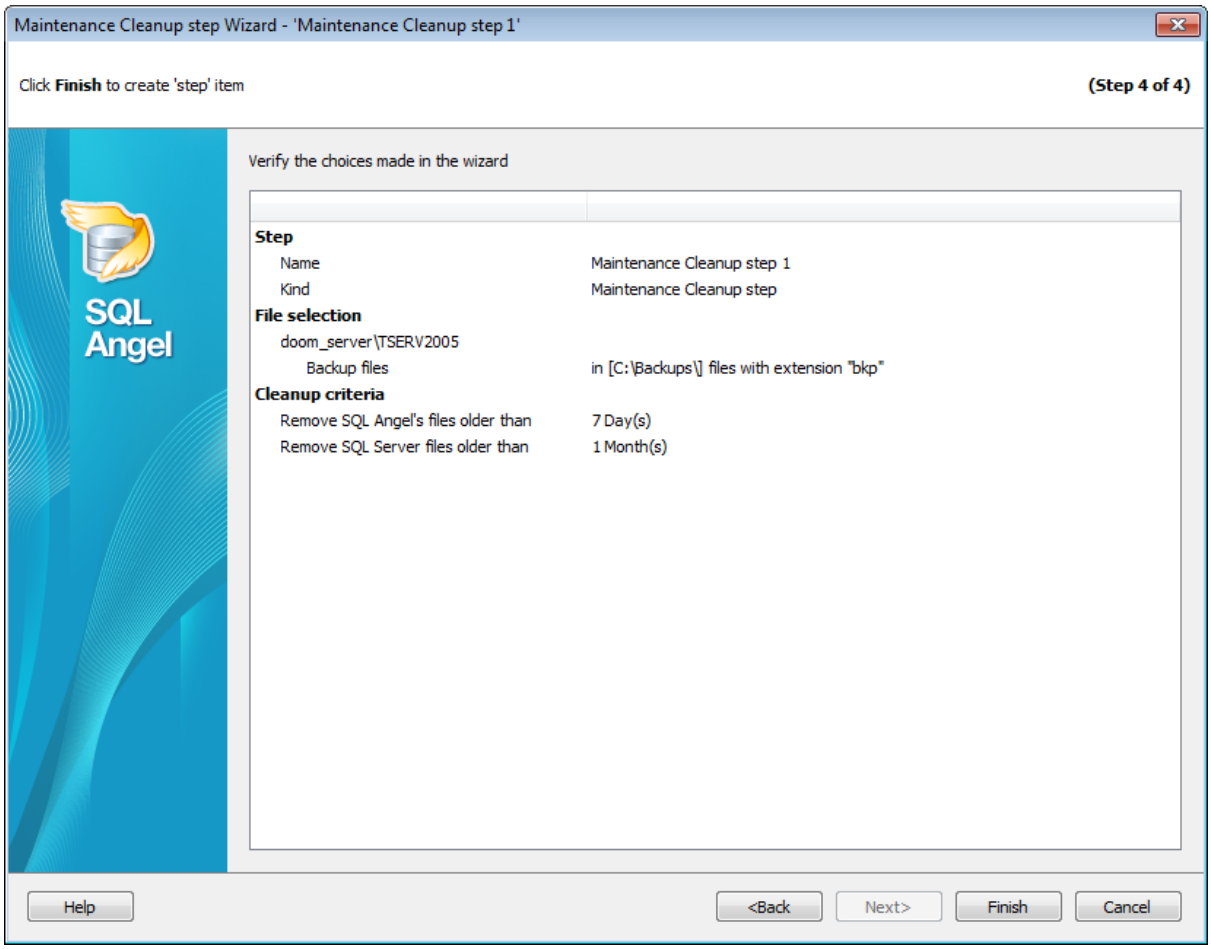
7.1.11.4 Performing operation

This step of the wizard is intended to inform you that all necessary options have been set, and you can perform maintenance cleanup.



After verifying the choices made in the wizard click the **Finish** button to complete the operation.

[<< Previous step]

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7.1.12 Transaction Log Shipping

Transaction Log Shipping step allows you to create transaction log backups, ship them to the destination server via a shared folder and restore on the destination server.

To perform log shipping step you must have at least two SQL Server instances; version of destination server cannot be earlier than the source server version; the source database must use the full or bulk-logged recovery model, both servers have access to the shared folder. The databases restored on the destination server stay in Restoring or Standby mode.

Note: This step is not included into **Quick Maintenance Action** list. It can be only executed within the Policy.

To perform *scheduled log shipping* on a regular basis you need to include this task into Policy:
1. At Step 2 of the Create Policy wizard click **Create new step** button and select **Transaction Log Shipping step** type.
2. Also, you can create a new Step Template for further use selecting **Transaction Log Shipping step** at the Templates tab.

Steps of the Transaction Log Shipping wizard:
Naming template
Specify database pairs
Specify backup options
Specify folders and recovery options
Performing operation

See also:
Backup Database
Restore Database
Execute SQL Server Agent job
Execute T-SQL statement
History Cleanup
Database Integrity Check
Reorganize Indices
Shrink Database
Update Statistics
Database Parameters Logger
Maintenance Cleanup

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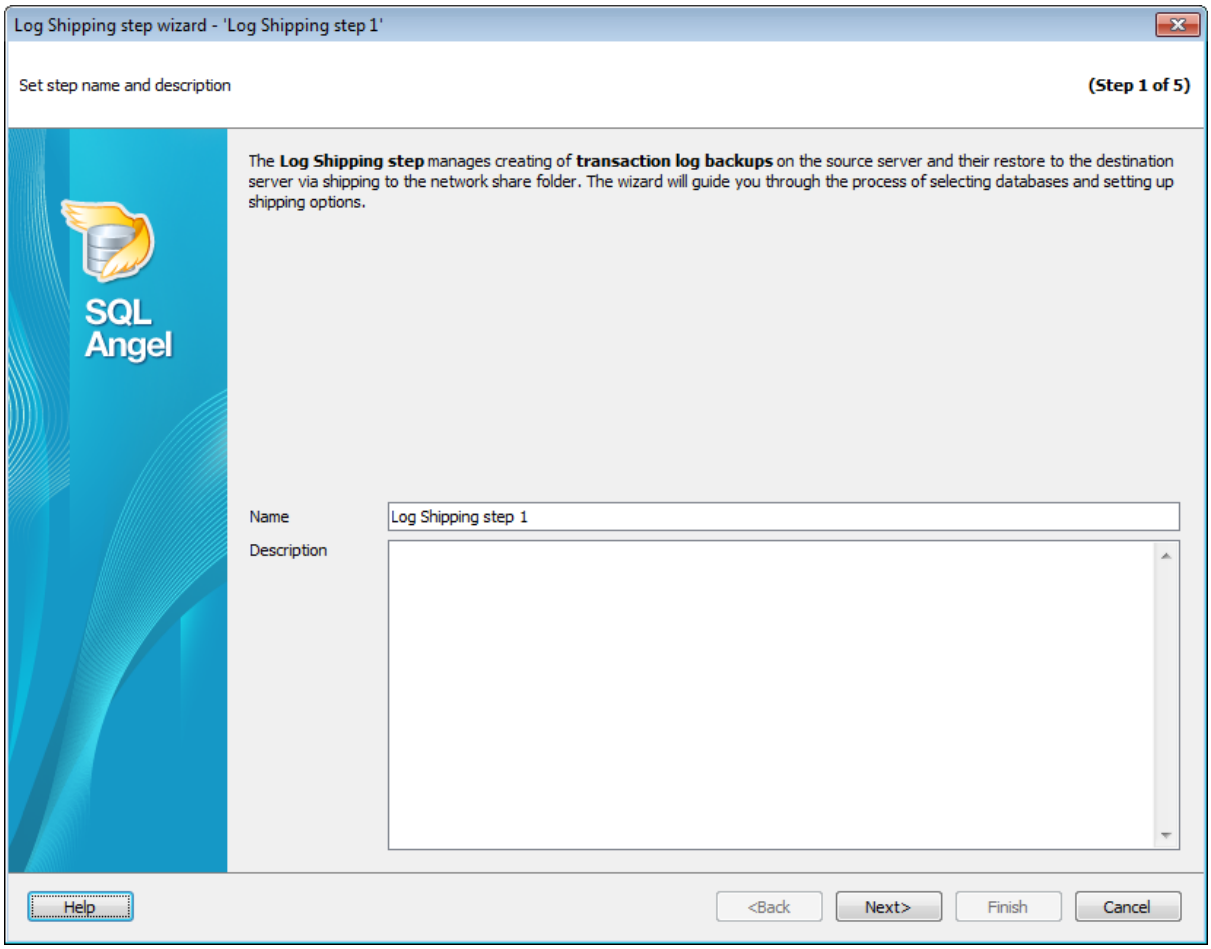
7.1.12.1 Naming step

You can name the step using the **Name** field. The **Description** field can be used to define brief info for the created step.


Log Shipping step wizard - 'Log Shipping step 1'
Set step name and description
(Step 1 of 5)
SQL Angel
The Log Shipping step manages creating of transaction log backups on the source server and their restore to the destination server via shipping to the network share folder. The wizard will guide you through the process of selecting databases and setting up shipping options.
Name
Log Shipping step 1
Description
Help
<Back
Next>
Finish
Cancel

This step does not appear for Quick Maintenance Actions.

Next step >>

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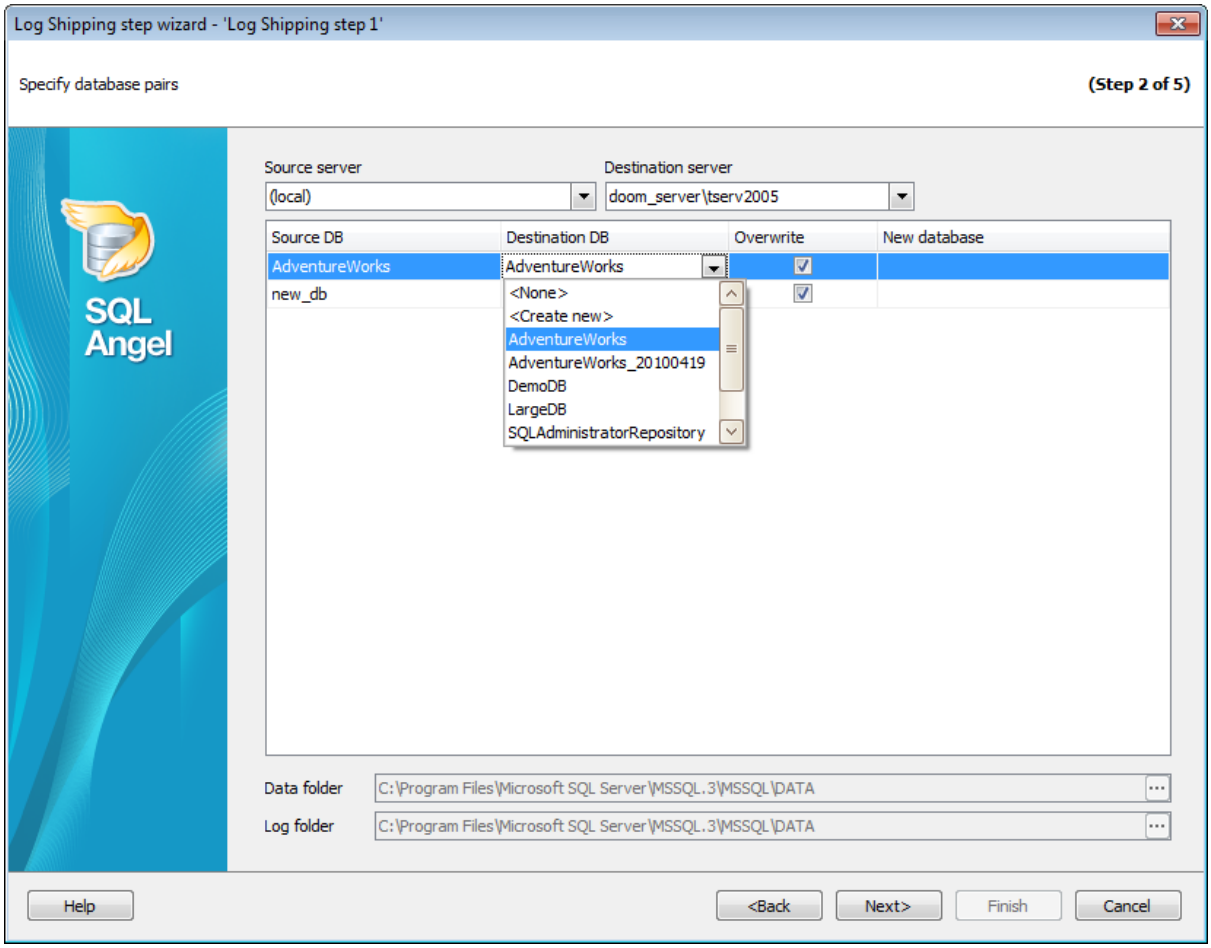
7.1.12.2 Specifying database pairs

At this step you need to set database pair for transaction log shipping.



Source server
Select the server where the database that you want to back up to another server is located.

Destination server
Select the server where transaction logs are shipped to from the drop-down list.

Set the database pairs in the grid. The backups of transaction logs are performed on the source server and restored on the destination server. The destination database must be the restored copy of the source database and be in Restoring state.
If the destination database does not exist, you can select *<Create new>* item in the **Destination DB** column and specify its name in the **New database** column. If the destination database needs rewriting, set the corresponding flag in the **Overwrite** column. Creating and overwriting of the databases is performed by creating a full backup of the source database and its further restoring. Even in case of scheduled execution, creating of a database is executed once immediately on wizard finish and the *<Create new>* item will be replaced with the created database name afterwards.

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Data folder
Specify the path for data MDF files for the newly created database.

Log folder
Specify the path for data LDF files for the newly created database.

Note: When creating a template no databases can be selected at this step. Please proceed to the next steps to set default template options. Databases can be selected on applying the template to the policy.

<< Previous step Next step >>

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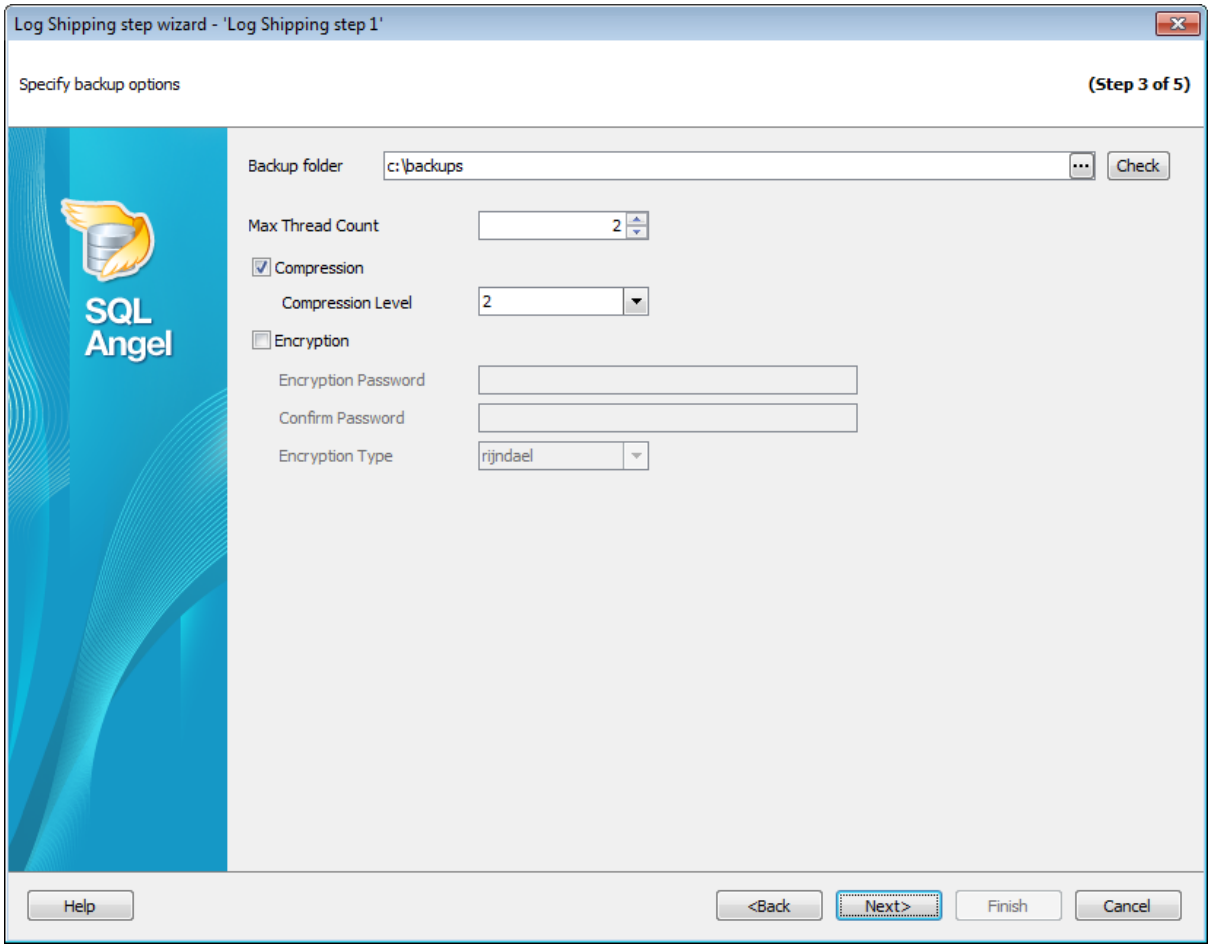
7.1.12.3 Specifying backup options

At this step you can define backup options for source database(s).



Backup folder
Specify the directory for backup. It is set relatively the source server. You can check availability of this folder by clicking the corresponding button.

Max Thread Count
Indicates the number of threads to be used for backup operation. Increase the number of threads for faster speed. If you are using a multi-processor system, increasing this value can fasten backup speed. You are recommended to set one thread fewer than the number of processors.

☑ **Compression**
Enable the option to compress backup.

Compression Level
Defines backup file compression level. Use '1' for the best speed and '4' for the best compression.

☑ **Encryption**

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Enable the option to encrypt backup.

Encryption Password
Set password that is used for backup encryption.

Confirm password
Confirm the password specified as an encryption password above.

Encryption Type
Select the encryption algorithm.

<< Previous step Next step >>

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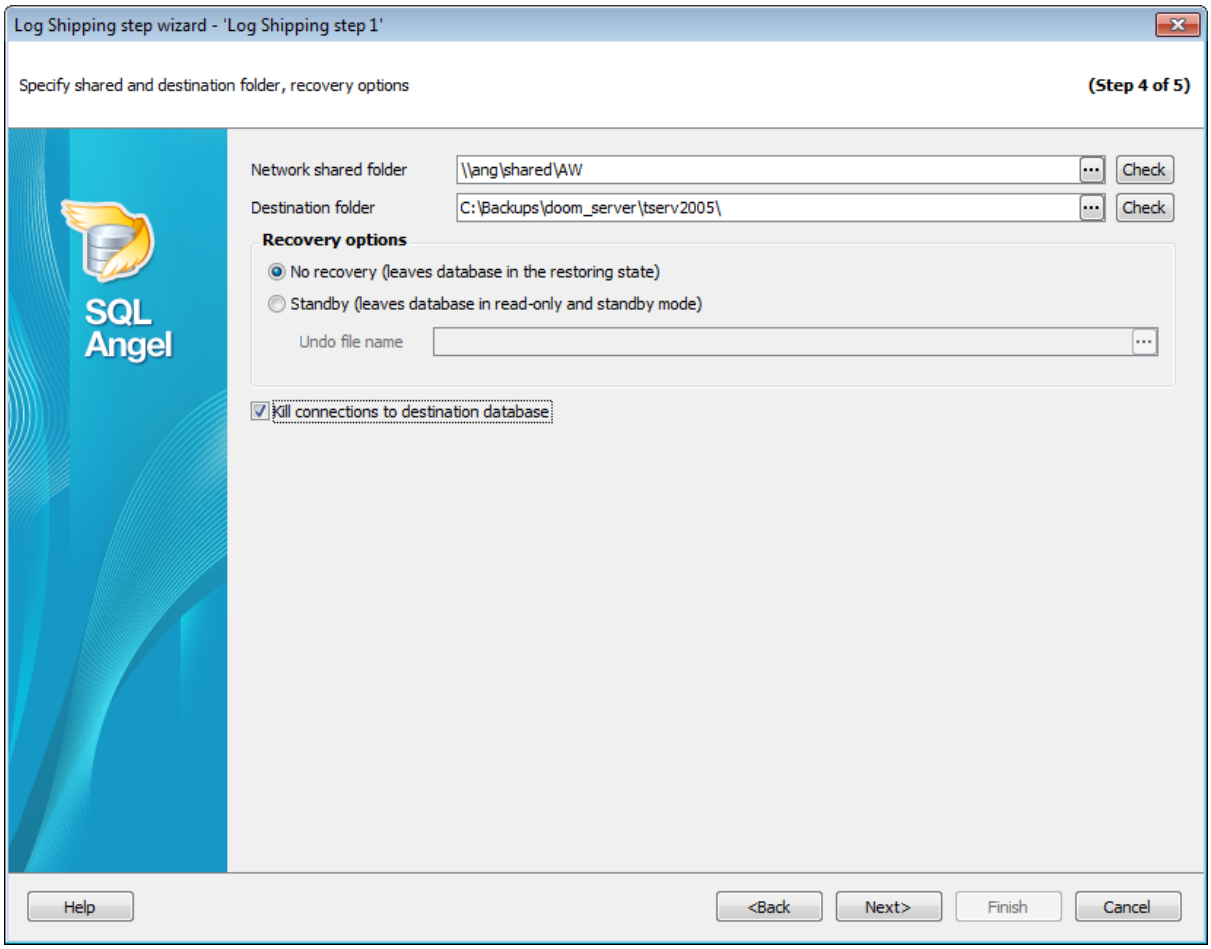
7.1.12.4 Specifying folders and recovery options

At this step you need to set shared and destination folder, and recovery options for the transaction log restore.



Network shared folder
Specify the backup shared folder for copying transaction log backups of the source database. Both source and destination servers should have access to this folder otherwise log shipping cannot be performed. Click the **Check** button to make sure that the folder is accessible by both servers.

Destination folder
Specify the destination server folder where backups will be shipped to. This folder is set relatively to the destination server.

Recovery options
This group of options allows you to specify the recovery options to be applied to the restore operation. The destination database may be in either the recovering or standby state, which leaves the database available for limited read-only access.

No recovery (leaves the database in the restoring state)
This option specifies that the restore operation does not roll back any uncommitted

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transactions.
NB: When this option is selected, the database is not usable in this intermediate, non-recovered state.
When used with a file or filegroup restore operation, this option forces the database to remain in the restoring state after the restore operation. This is useful in either of the following situations:

- a restore script is being run and the log is always being applied;
- a sequence of file restores is used and the database is not intended to be usable between two of the restore operations.

Standby (leaves database in read-only and standby mode)
This option allows the database to be brought up for read-only access between transaction log restores and can be used with either warm standby server situations or special recovery situations in which it is useful to inspect the database between log restores.

Undo file name
Specify the undo file name, so that the recovery effects can be undone. The same undo file can be used for consecutive restores of the same database.
NB: If free disk space is exhausted on the drive containing the specified undo file name, the restore operation stops.

Set **Kill connections to destination database** option ON for forced disconnection of all processes the database. We recommend to check it, if Overwrite option has been set at Step 2.

<< Previous step Next step >>

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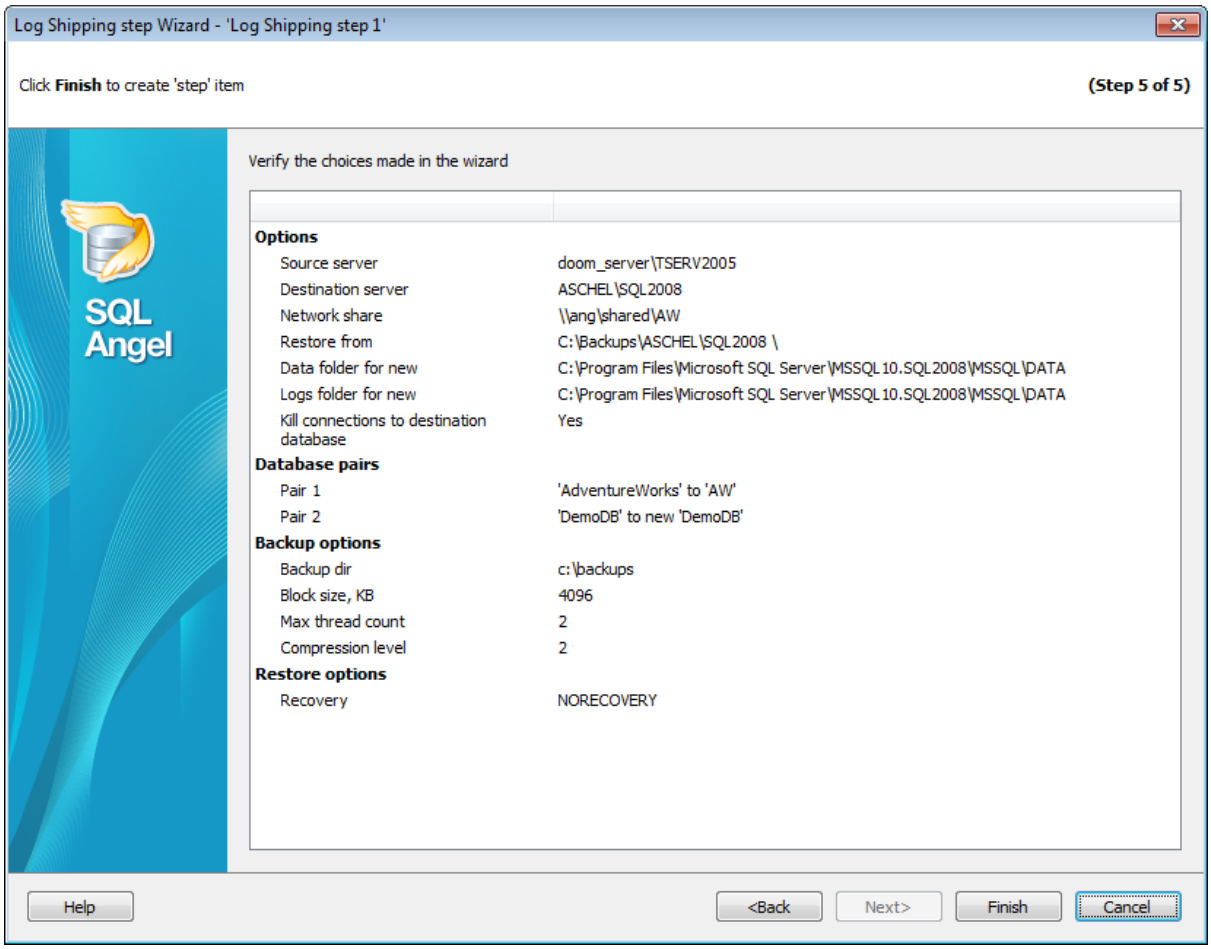
7.1.12.5 Performing operation

This step of the wizard is intended to inform you that all necessary options have been set, and you can perform transaction log shipping.



After verifying the choices made in the wizard click the **Finish** button to complete the operation.
If the *New database* or *Overwrite* option has been selected as a Destination database at Step 2 performing of the operation consists of 2 steps:
1) Transferring of the full backup. It is executed once on wizard finish.
2) Transferring of transaction log.

<< Previous step

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7.2 Editing Steps

This chapter describes the way steps can be viewed/edited.

After the step has been already created it can be opened and edited in the editor at Policies tab (if it's already a part of a policy) or Templates tab (if it's been created as a template).To open a step editor use double-clicking, popup menu or the **Edit** button.

Topics listed below provide sufficient information about step editing:
Backup database
Execute SQL Server Agent job
Execute T-SQL statement
Database Integrity Check
Shrink Database
Reorganize Indices
Update Statistics
Database Parameters Logger
Maintenance Cleanup
History Cleanup
Transaction Log Shipping

See also:
Creating Steps

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7.2.1 Backup database

Backup Database step editor provides the same set of options as Backup Database wizard.

The following pages are available in this dialog:
Name and description
General
Selection
Angel settings
Backup file options
Options
Verify options

See also:
Execute SQL Server Agent job
Execute T-SQL statement
History Cleanup
Database Integrity Check
Shrink Database
Reorganize Indices
Update Statistics
Database Parameters Logger
Maintenance Cleanup
Transaction Log Shipping

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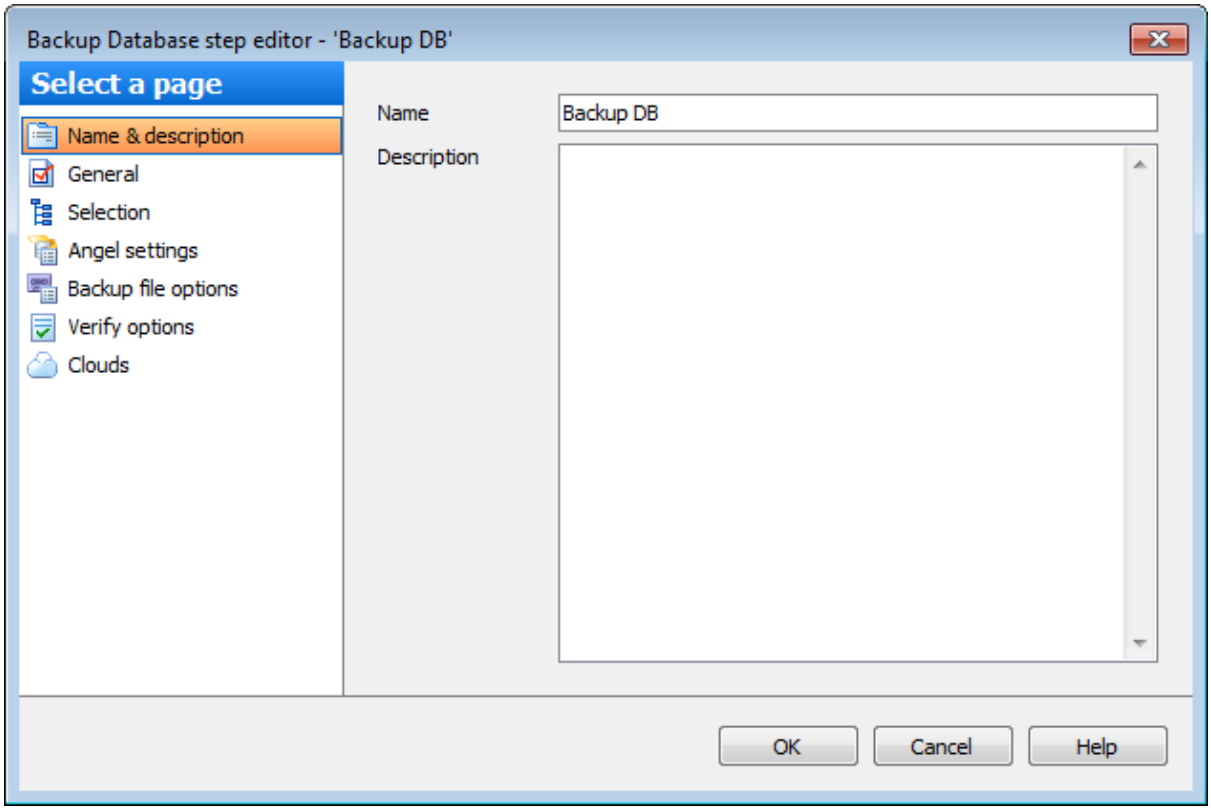
7.2.1.1 Name and description

This page allows you to view\edit Backup database step name and description.



Name
Use this field to name the step.

Description
This field allows you to define step description.

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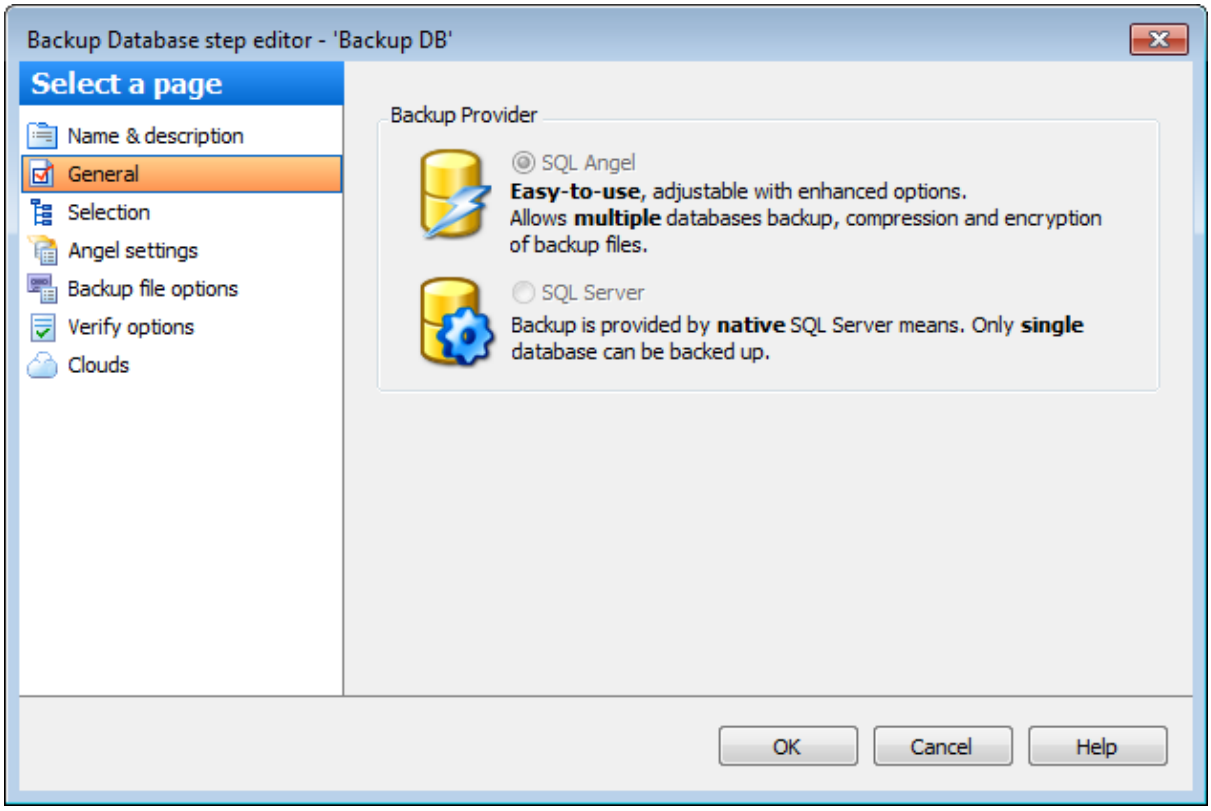
7.2.1.2 General

This page allows you to view a backup provider selected.



Backup provider
Backup provider set in the Backup database wizard. This option cannot be changed in editing mode.

The files created with **SQL Angel** provider cannot be restored using standard server tools; you need either use SQL Angel restore or convert the backup file to **SQL Server** type.

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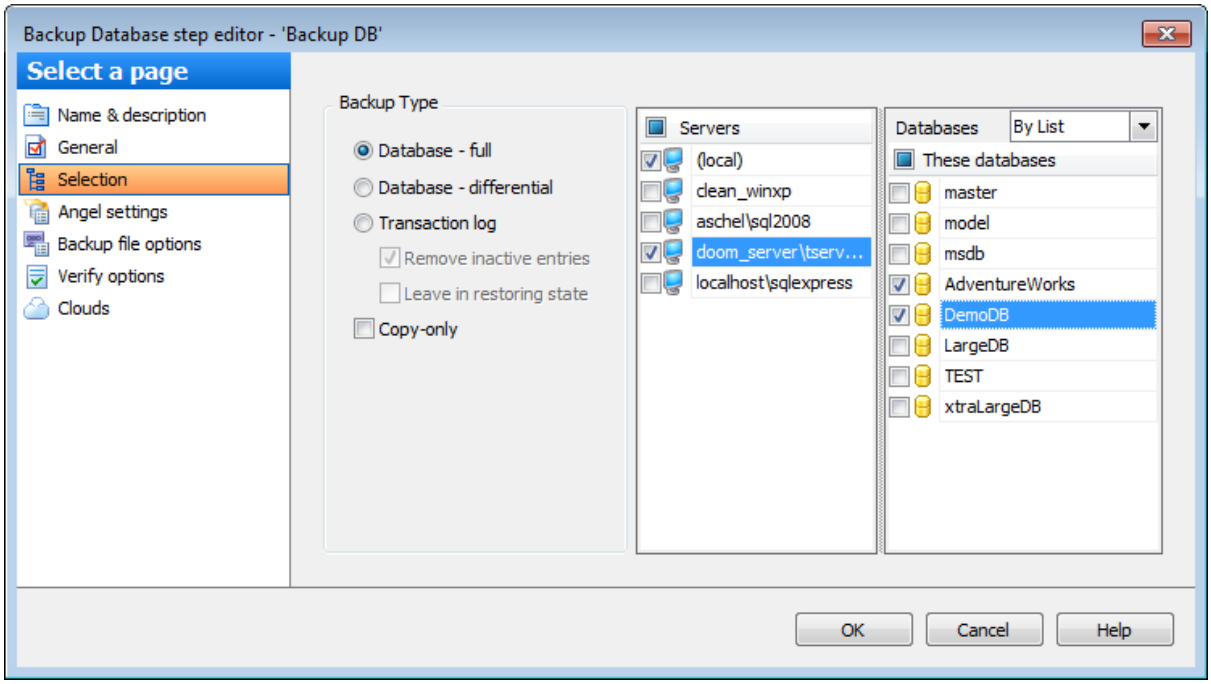
7.2.1.3 Selection

This page allows you to edit database selection for backup operation.



Backup type

Use this parameter to define the backup type:
Database - full (a full database backup which backs up the entire database including the transaction log)
Database - differential (a differential backup which records only the changes made to the data in the database after the last full database backup)
Transaction log (a sequence of log backups provided for a continuous chain of transaction information to support recovery forward from database, differential, or file backups)

Set **Remove inactive entries** option on to truncate the live transaction log when you create a backup
Set **Leave in restoring state** on to leave the database in restoring state to be unavailable to users until it is completely restored.
Set **Copy-only** option to create a copy-only backup which is a SQL Server backup that is independent of the sequence of conventional SQL Server backups.

Servers

Select the **servers** to run the operation on. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.
Note: Selecting servers is not available in Template mode. It is selected on applying the Step Template in Policy.

Databases

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If SQL Anger provider is used, you can select multiple databases, in case of SQL Server backup only one database can be specified.

All
Use this option to select both: system and user databases.

All system
This option indicates that only system databases should be backed up.

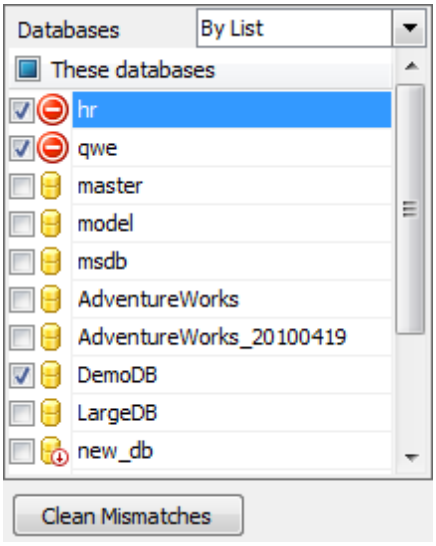
All user
Select this option to back up user databases only.

By mask
This option allows defining database selection by mask. Use ***** for a set of any characters and **?** for any single character in the database name.

By list
This option allows you to select databases manually.
If you are creating a step template then you can add a database to the list by using the button or *Ins* key.

Note: The server is selected on applying the Step Template in Policy.

When you are editing a step on creating a policy from template then if the database(s) defined on the Selecting database step are missed on the selected server the list of databases will be the following.



Click the **Clean Mismatches** button to delete the missed databases from the list for the policy cannot be executed for them.

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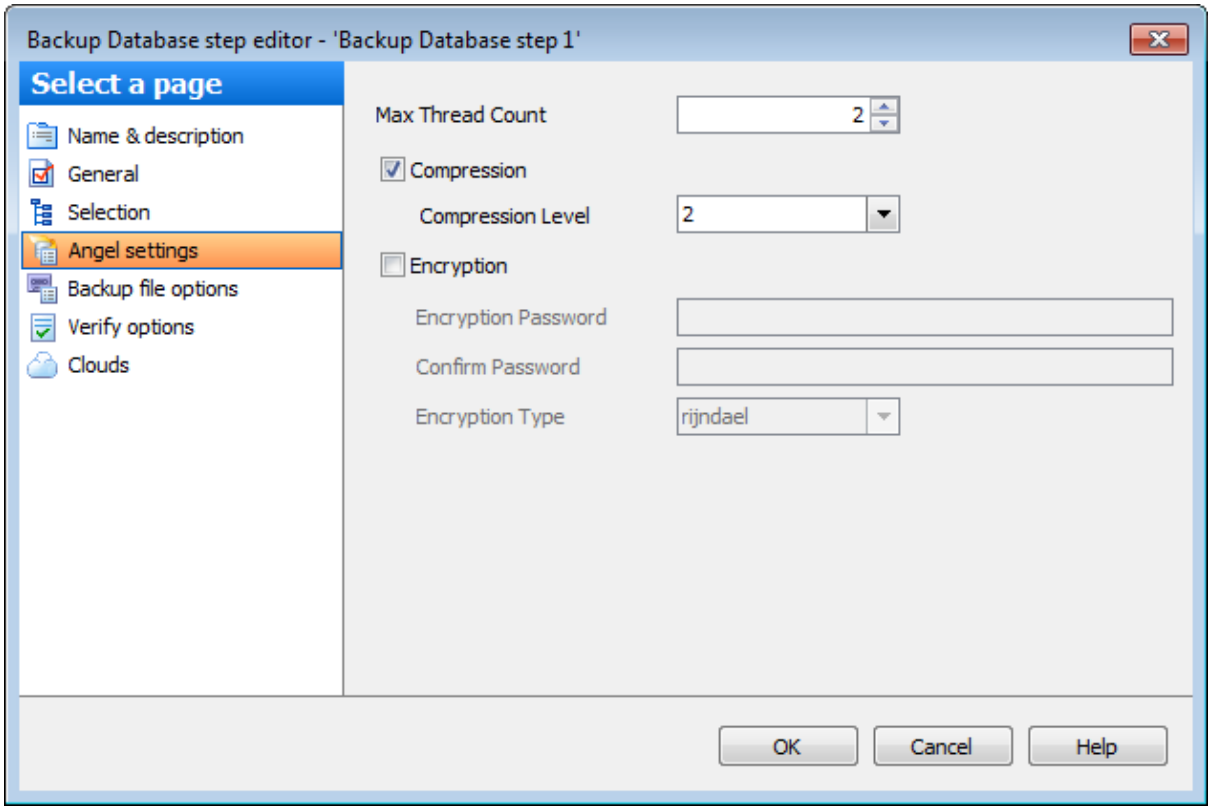
7.2.1.4 Angel settings

This page contains set of specific backup options. You can make changes if needed.



Max Thread Count
Indicates the number of threads to be used for backup operation. Increase the number of threads for faster speed. If you are using a multi-processor system, increasing this value can fasten backup speed. You are recommended to set one thread fewer than the number of processors.

Compression
Enable the option to compress backup.

Compression Level
Defines backup file compression level. Use '1' for best speed and '9' for best compression.

Encryption
Enable the option to encrypt backup.

Encryption Password
Set and confirm password that is used for backup decryption.

Encryption Type
Select the encryption algorithm.

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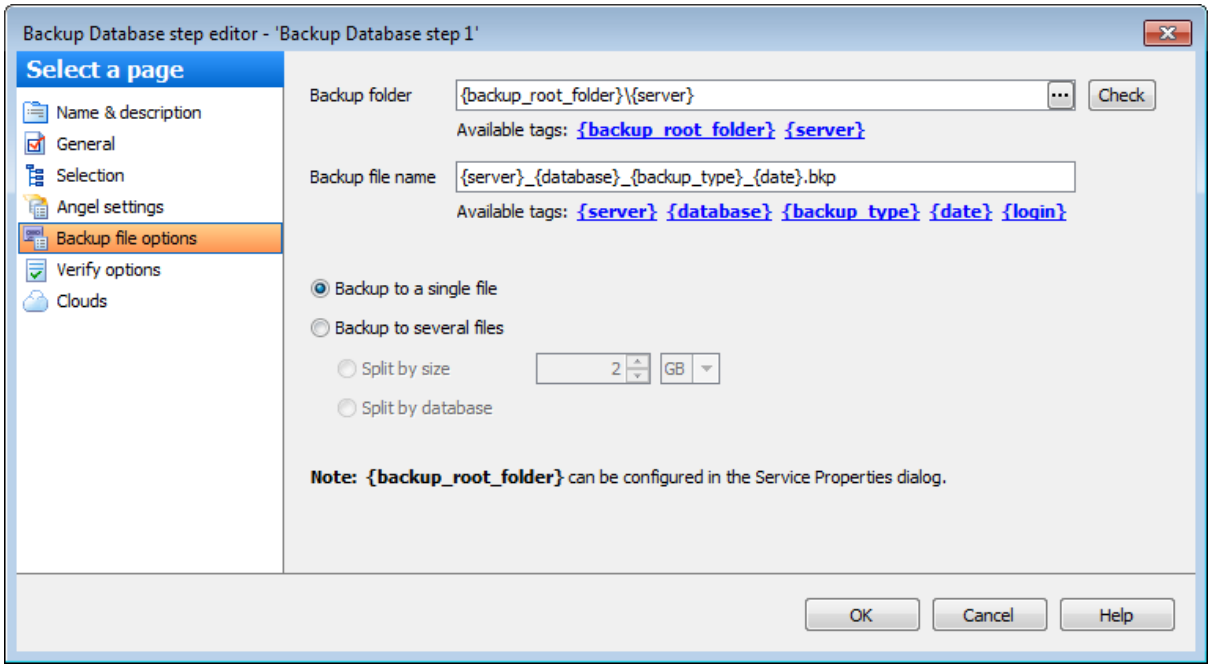
7.2.1.5 Backup file options

At this page you can find backup file options.



Backup folder
Specify backup destination directory. For your convenience *{backup_root_folder}* and *{server}* tags are provided. The directory which the *{backup_root_folder}* tag stands for is configured in the Service Properties dialog.
You can check availability of the defined folder by clicking the corresponding button.
Note: The **Check** button is available only if backup is configured on a single server.

Backup file name
Define backup file name. Type backup file name manually or form it using variables. For your convenience *{server}*, *{database}*, *{backup_type}*, *{date}* and *{login}* tags are provided.

Note: To insert a tag in the field simply click it in the list of **Available tags**.

Backup to a single file
Select this option to backup all selected databases to a single file.

Backup to several files
This option indicates that backup should be split to several files. Splitting the backup can in some cases speed up the backup process.

Split by size
Indicates that backup file will be split to volumes of the specified size.

Split by database
Indicates that each database will be backed up into a separate file.

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Note: **Backup to several files** option is disabled for SQL Server backup provider.

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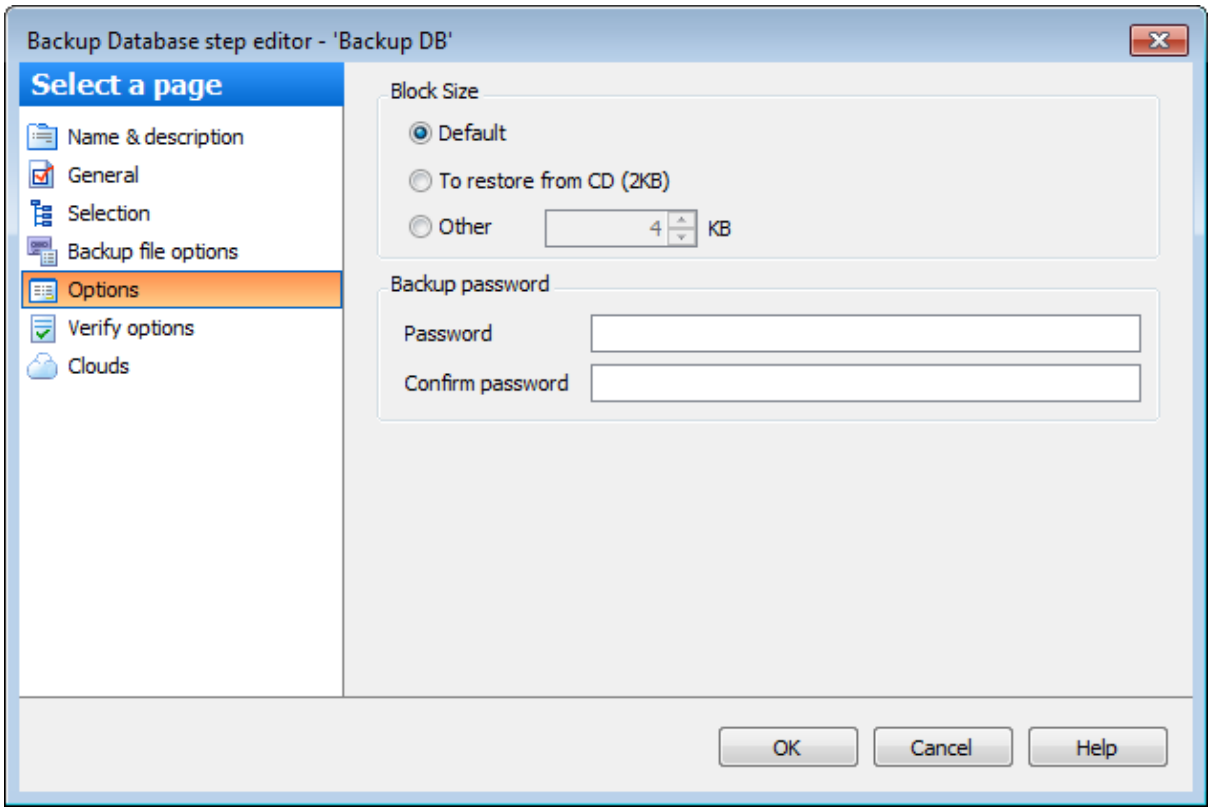
7.2.1.6 Options

At this page you can define backup options. This tab is only available for SQL Server provider selected.



Block size

Define the size of a data block. Possible values are: *Default*, *To restore from CD* (2 KB), *Other* (i.e. you can specify an arbitrary value). The supported sizes are 512, 1024, 2048, 4096, 8192, 16384, 32768, and 65536 (64 KB) bytes. Possible values are: *Default*, *To restore from CD* (2 KB), *Other* (i.e. you can specify an arbitrary value).

Options

Verify backup when finished
Check this option to enable backup verification.

Perform checksum before writing to media
This option enables/disables checksum verification before writing to the backup media.

Continue on error
This option determines whether the backup operation will be stopped or forced to continue if an error occurs.

Backup compression
This option enables backup compression overriding the server-level default (for SQL

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Server 2008 Enterprise and later versions).

If necessary, you can set a **Password** for the backup: enter the password twice in the respective edit fields.

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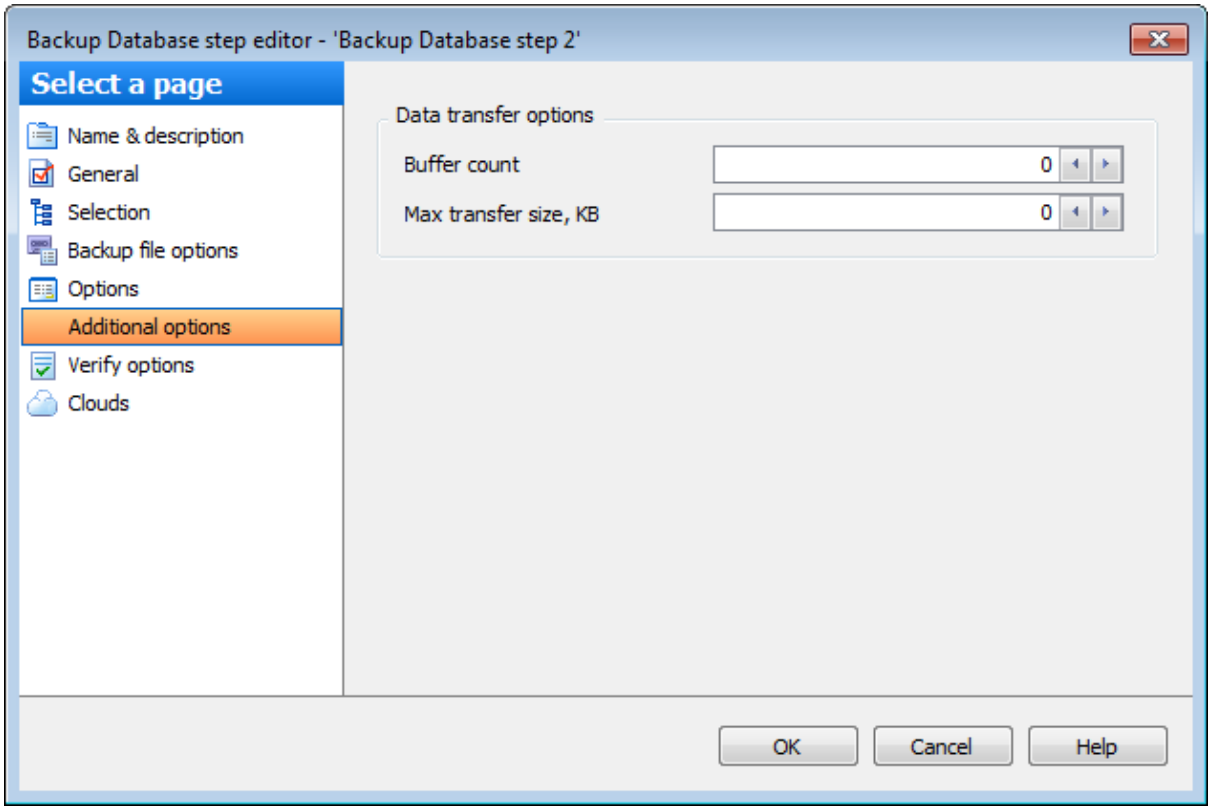
7.2.1.7 Additional options

This tab is only available if backup is performed with SQL Server provider.



Buffer count
Specifies the total number of I/O buffers to be used for the backup operation.

Max transfer size, KB
Specifies the largest unit of transfer in bytes to be used between SQL Server and the backup media. The maximum value is 4096 Kb.

Note: If specified value is 0 then the default value is used.

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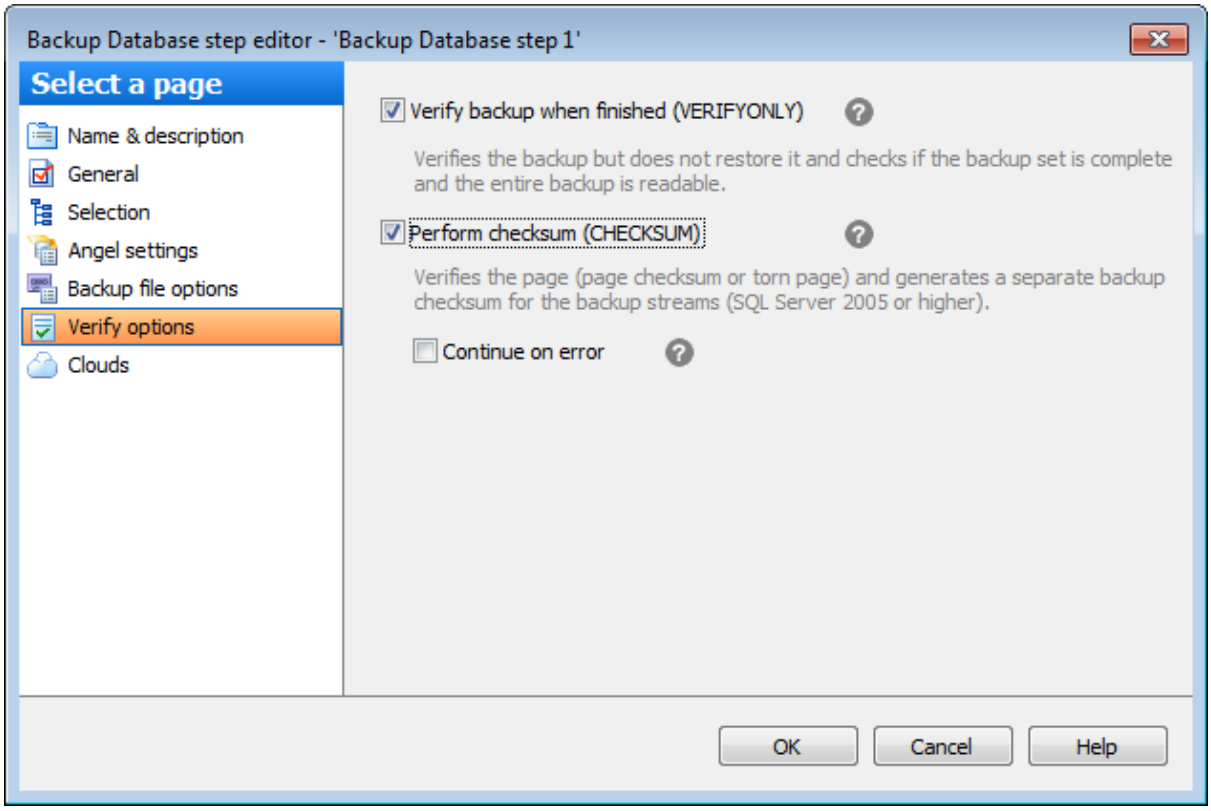
7.2.1.8 Verify options

At this page you can define backup verifying options.


Backup Database step editor - 'Backup Database step 1'
Select a page
Name & description
General
Selection
Angel settings
Backup file options
Verify options
Clouds
Verify backup when finished (VERIFYONLY)
Verifies the backup but does not restore it and checks if the backup set is complete and the entire backup is readable.
Perform checksum (CHECKSUM)
Verifies the page (page checksum or torn page) and generates a separate backup checksum for the backup streams (SQL Server 2005 or higher).
Continue on error
OK
Cancel
Help

Verify backup when finished (VERIFYONLY)
Check this option to enable backup verification. Verifying a backup checks that the backup is intact physically, to ensure that all the files in the backup are readable and can be restored, and that you can restore your backup in the event you need to use it.

Perform checksum before writing to media (CHECKSUM)
This option enables/disables checksum verification before writing to the backup media. Before writing a page to the backup media, BACKUP verifies the page, if this information is presented on the page. BACKUP generates a separate backup checksum for the backup streams. Restore operations can optionally use the backup checksum to validate that the backup is not corrupted. The backup checksum can optionally be used at restore time. Using backup checksums may affect workload and backup throughput.

Continue on error
This option determines whether the backup operation will be stopped or forced to continue despite encountering errors such as invalid checksums or torn pages.

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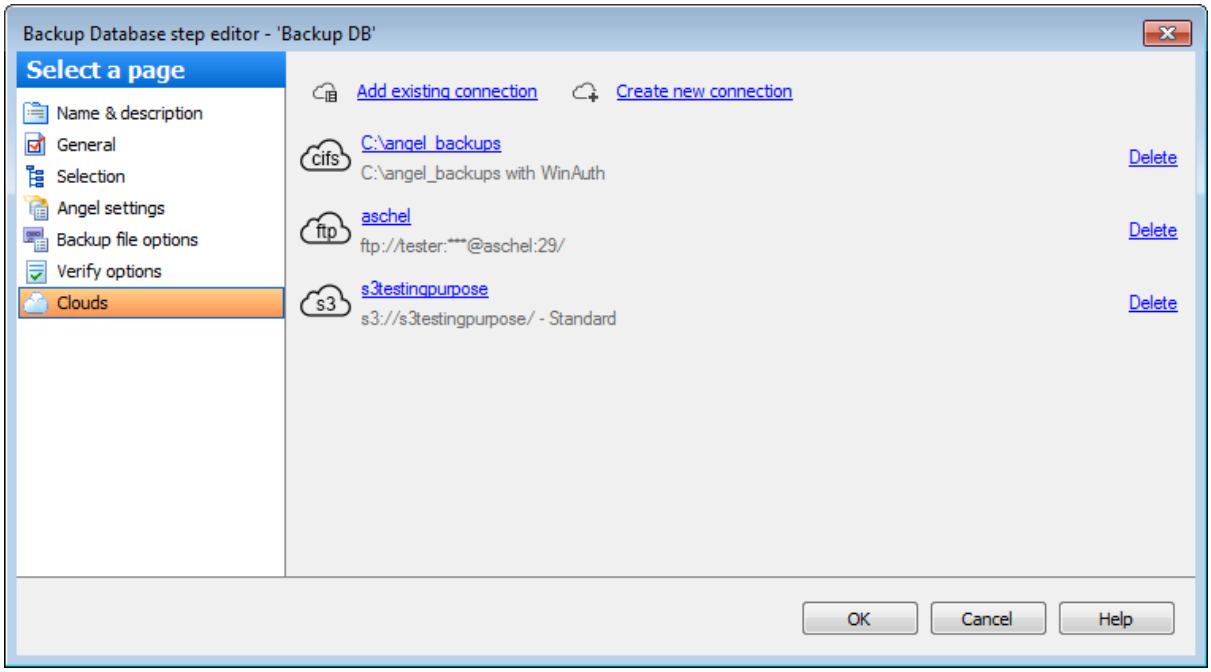
7.2.1.9 Clouds

Use this tab to set cloud connections for storing backups. Copies of backup files will be uploaded to the specified storages.
The connections to the following storages are supported:

- SMB/CIFS
- FTP
- Amazon S3 Cloud
- Secure FTP



You can create a new connection or add an existing one. On adding an existing connection you will be offered to choose among connections specified in Cloud Connections tab of the Options dialog.
To change connection parameters click on its name. Depending on connection type the relevant dialog for configuring connection settings will be opened.

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7.2.2 Execute SQL Server Agent job

Execute SQL Server Agent job step editor provides the same set of options as Execute SQL Server Agent Job wizard.

The following pages are available in this dialog:
Name and description
General

See also:
Backup database
Execute T-SQL statement
History Cleanup
Database Integrity Check
Shrink Database
Reorganize Indices
Update Statistics
Database Parameters Logger
Maintenance Cleanup
Transaction Log Shipping

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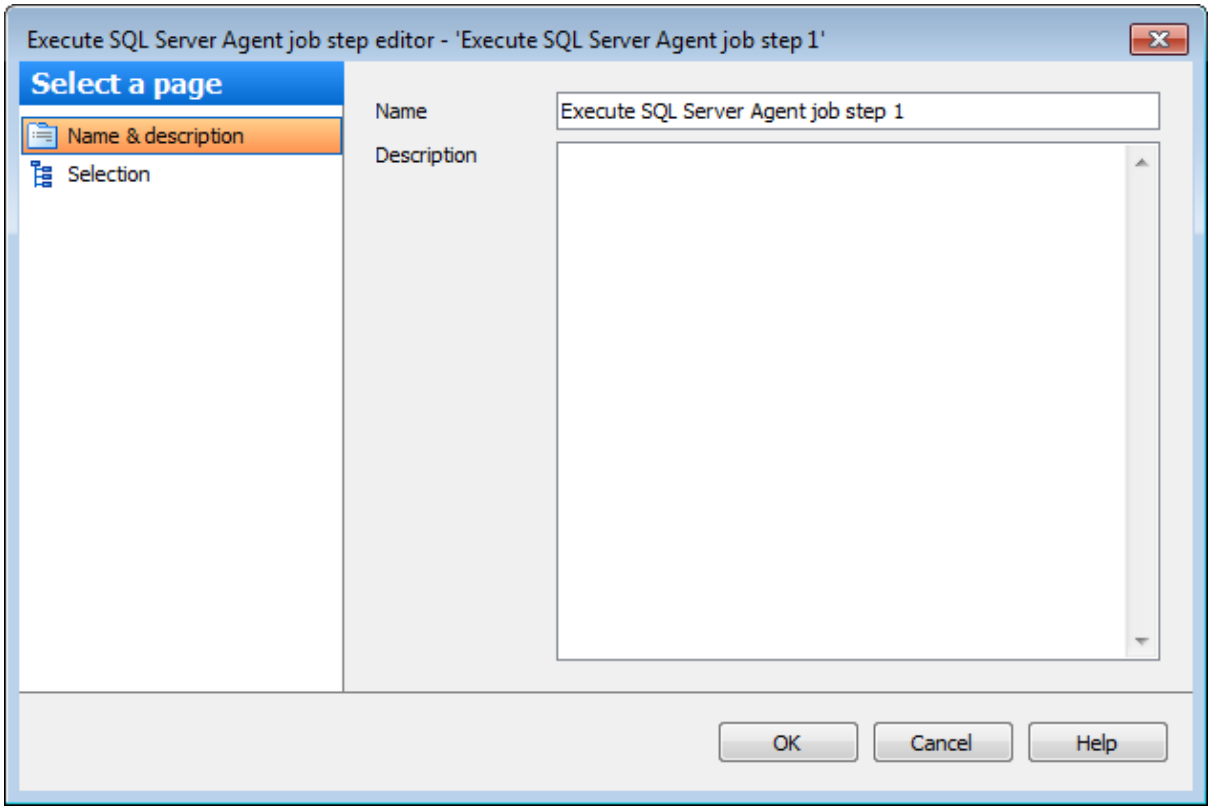
7.2.2.1 Name and description

This page allows you to view\edit the step name and description.



Task name
Use this field to name the step.

Description
This field allows you to define step description.

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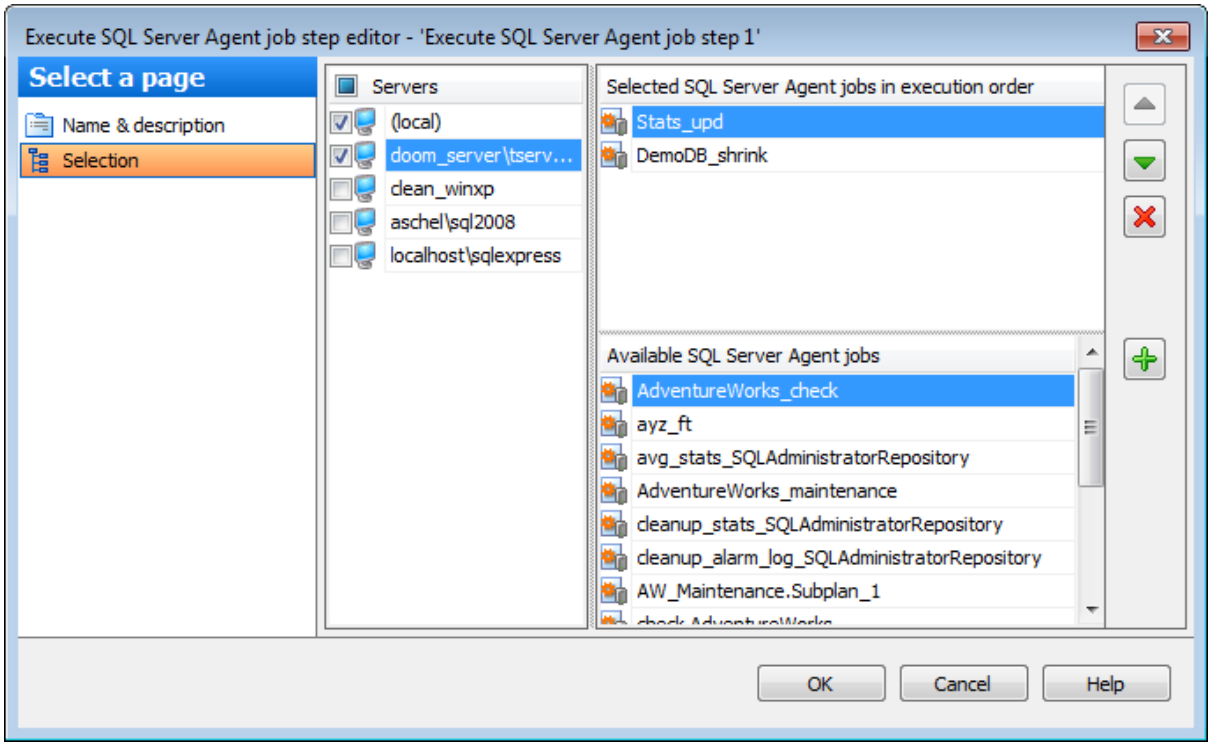
7.2.2.2 Selection

Use this page to edit job name.



Servers

Select the **servers** to run the operation on. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.
Note: Selecting servers is not available in Template mode. It is selected on applying the Step Template in Policy.

SQL Server Agent's job
This field indicates which SQL Server Agent job should be executed.

You can re-arrange jobs order for execution using arrow buttons on the right. Use button or Delete key to remove job from the list.

Note: The server is selected on applying the Step Template in Policy.

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7.2.3 Execute T-SQL statement

Execute T-SQL Statement step editor provides the same set of options as Execute T-SQL Statement wizard.

The following pages are available in this dialog:
Name and description
General
Selection

See also:
Backup database
Execute SQL Server Agent job
History Cleanup
Database Integrity Check
Shrink Database
Reorganize Indices
Update Statistics
Database Parameters Logger
Maintenance Cleanup
Transaction Log Shipping

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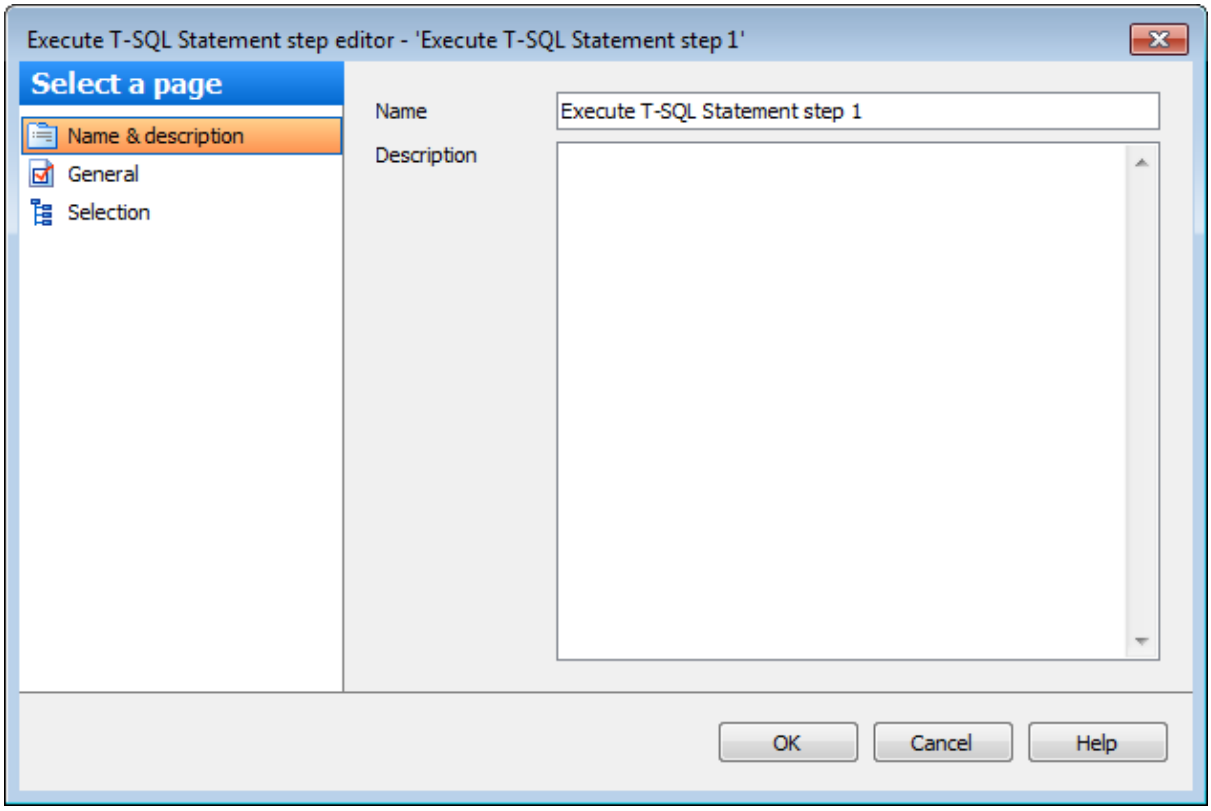
7.2.3.1 Name and description

This page allows you to view\edit the step name and description.



Task name
Use this field to name the step.

Description
This field allows you to define step description.

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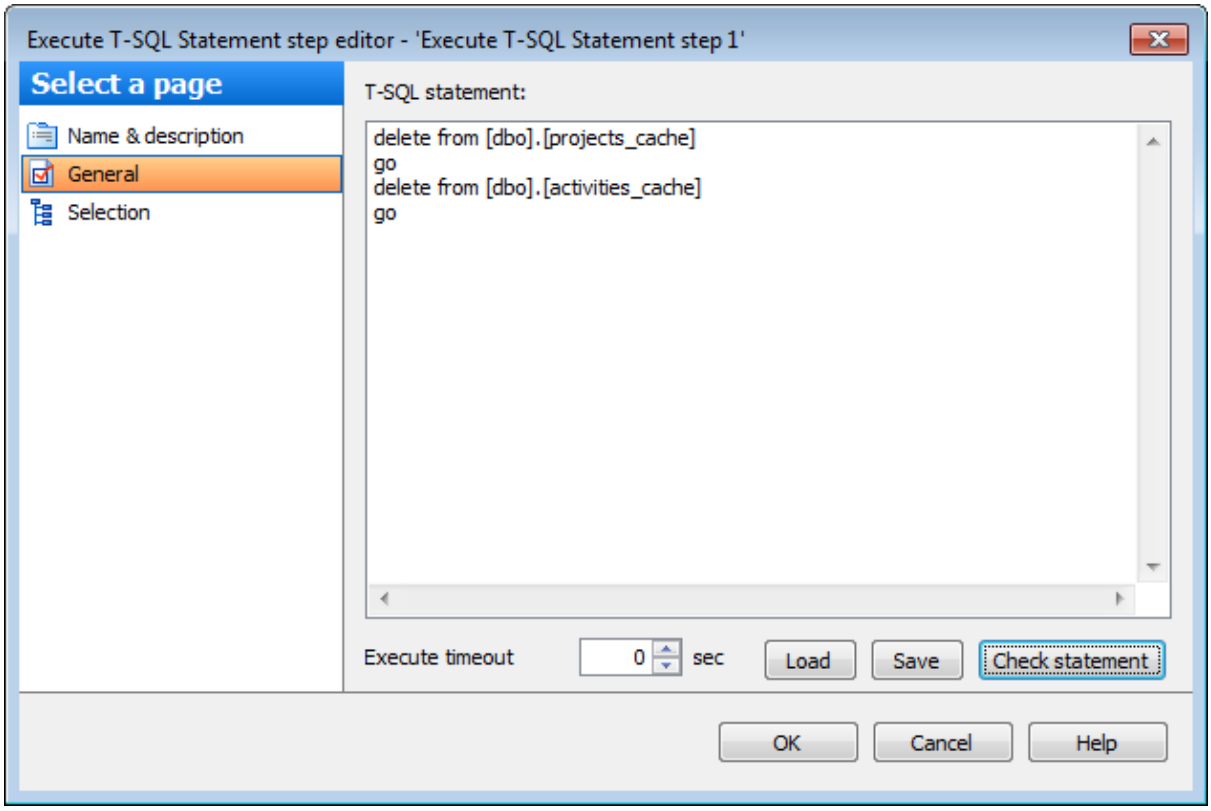
7.2.3.2 General

At this page you can view\edit T-SQL statement.



T-SQL statement
This area contains T-SQL statement text to be performed.

Execute timeout
This field indicates time limit for syntax check.

Use **Load\Save** buttons to work with text loading and saving.

Use the **Check statement** button to run the statement on the server in PARSEONLY mode to ensure that T-SQL statement is correct. The detailed log of errors is displayed at the **Errors** tab.

All errors are displayed on the **Errors** tab.

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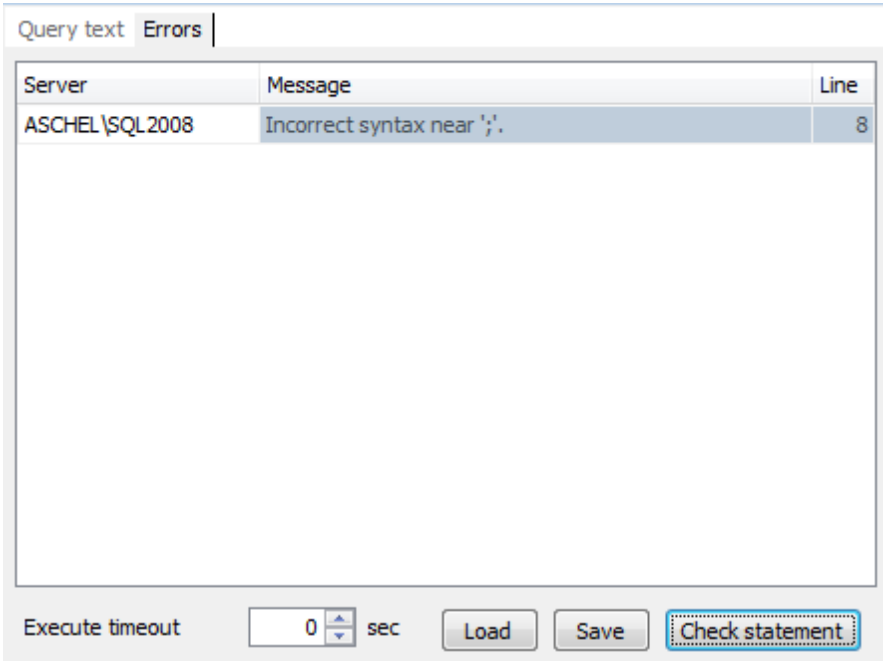

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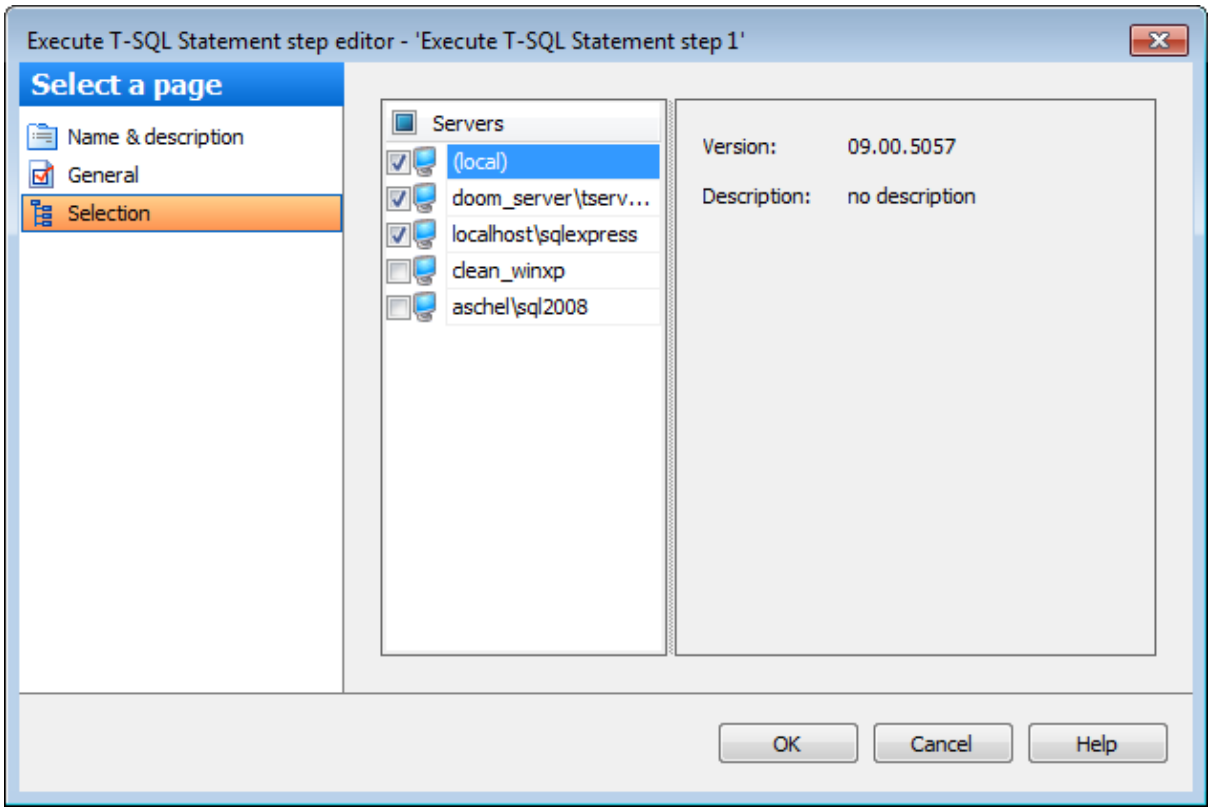
7.2.3.3 Selection

На этой вкладке можно выбрать серверы на которых будет выполняться заданный оператор.



Servers

Select the **servers** to run the operation on. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.
Note: Selecting servers is not available in Template mode. It is selected on applying the Step Template in Policy.

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7.2.4 History Cleanup

History Cleanup step editor provides the same set of options as History Cleanup wizard.

The following pages are available in this dialog:
Name and description
General
Selection

See also:
Backup database
Execute SQL Server Agent job
Execute T-SQL statement
Database Integrity Check
Shrink Database
Reorganize Indices
Update Statistics
Database Parameters Logger
Maintenance Cleanup
Transaction Log Shipping

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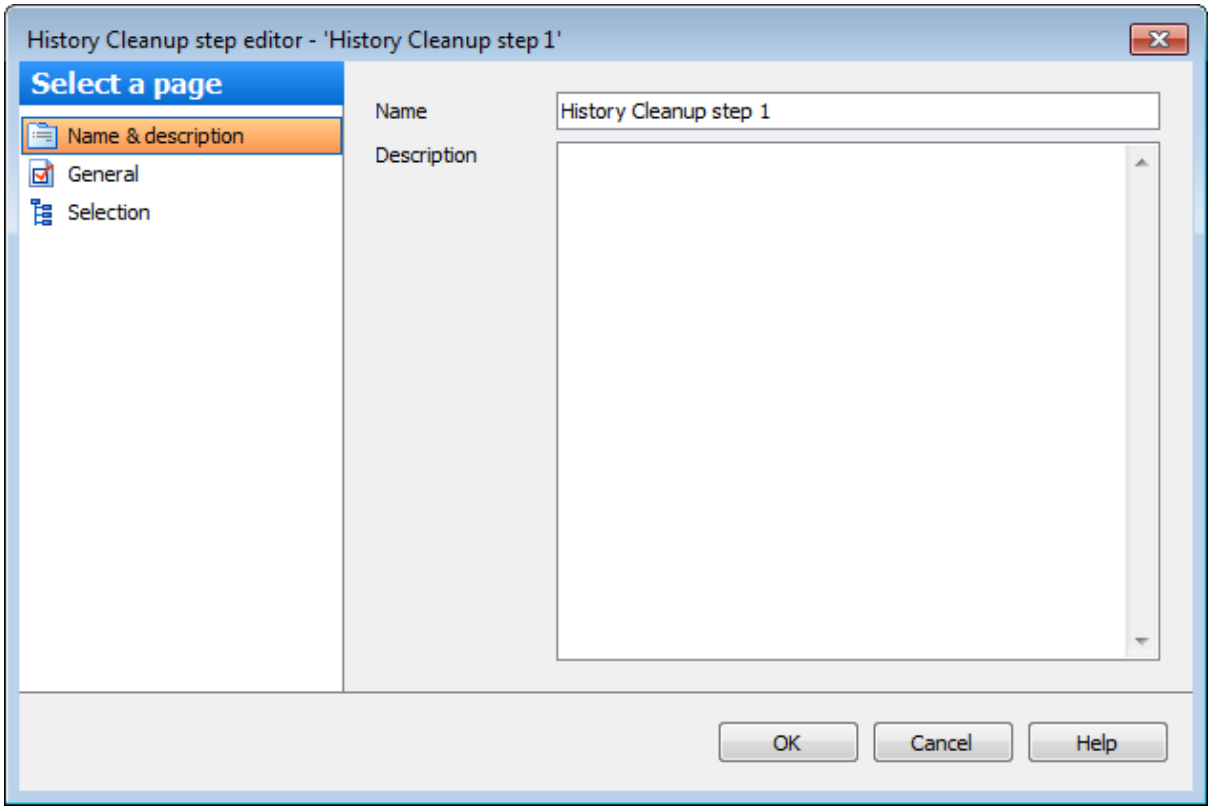
7.2.4.1 Name and description

This page allows you to view\edit the step name and description.



Task name
Use this field to name the step.

Description
This field allows you to define step description.

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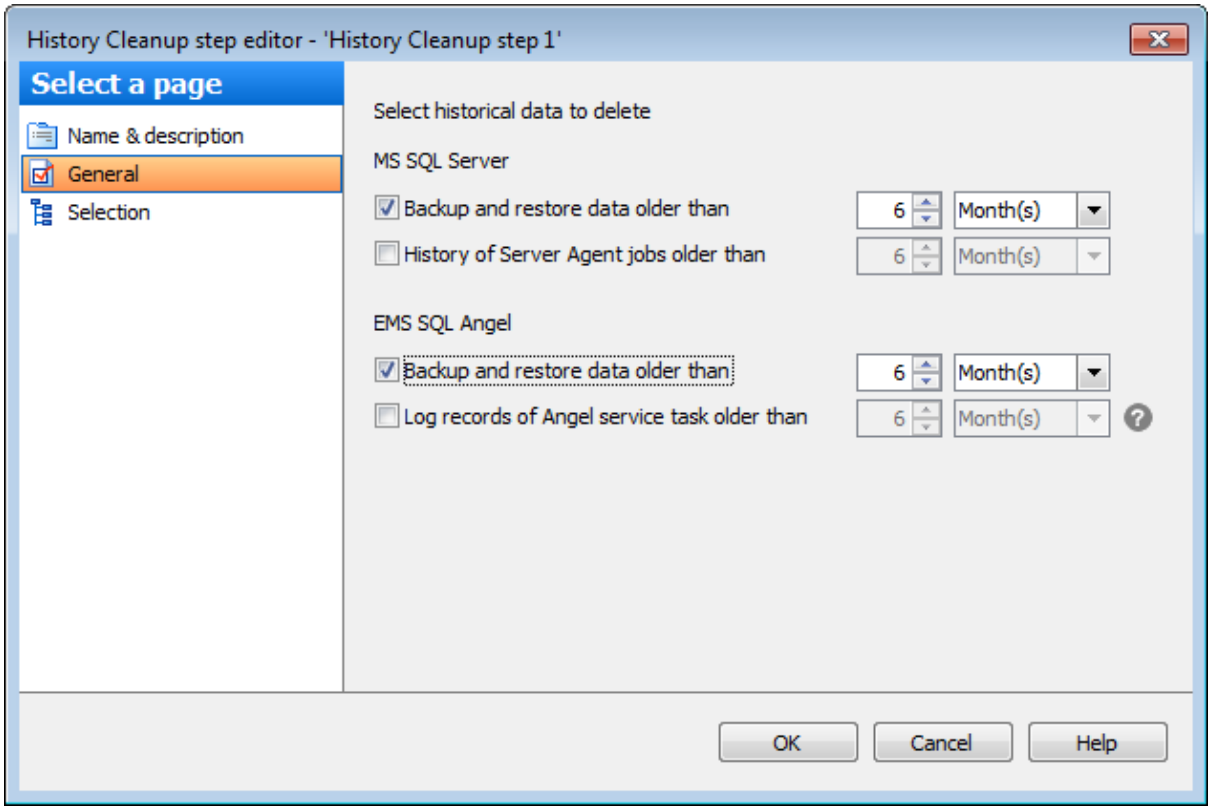
7.2.4.2 General

This page is used to define general options of history cleanup step.



MS SQL Server

The following options are intended to delete MS SQL backup history and some log info concerning specific jobs performed by MS SQL Server means.

Backup and restore history data older than
Enable the option to clean the history of the MS SQL Server backup and restore operations made before the specified date. After cleanup the information about SQL Server type backups performed by SQL Angel or by SQL Server itself will be removed from the server and SQL Angel.

Server Agent job history data older than
Enable the option to clean the history of the SQL Server Agent job(s) made before specified date. After this cleanup all information about SQL Server Agent job execution will be removed from the server.

EMS SQL Angel

The following options are intended to delete some log info concerning tasks performed by SQL Angel

Backup and restore history data older than
Enable the option to clean the history of the backup and restore operations made before the specified date. After cleanup the information about SQL Angel type backups will be

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removed from SQL Angel.

Angel Service task log records older than
Enable the option to clean the history of the SQL Angel task(s) execution made before specified date. After cleanup the information about executed tasks will be removed from History Viewer.

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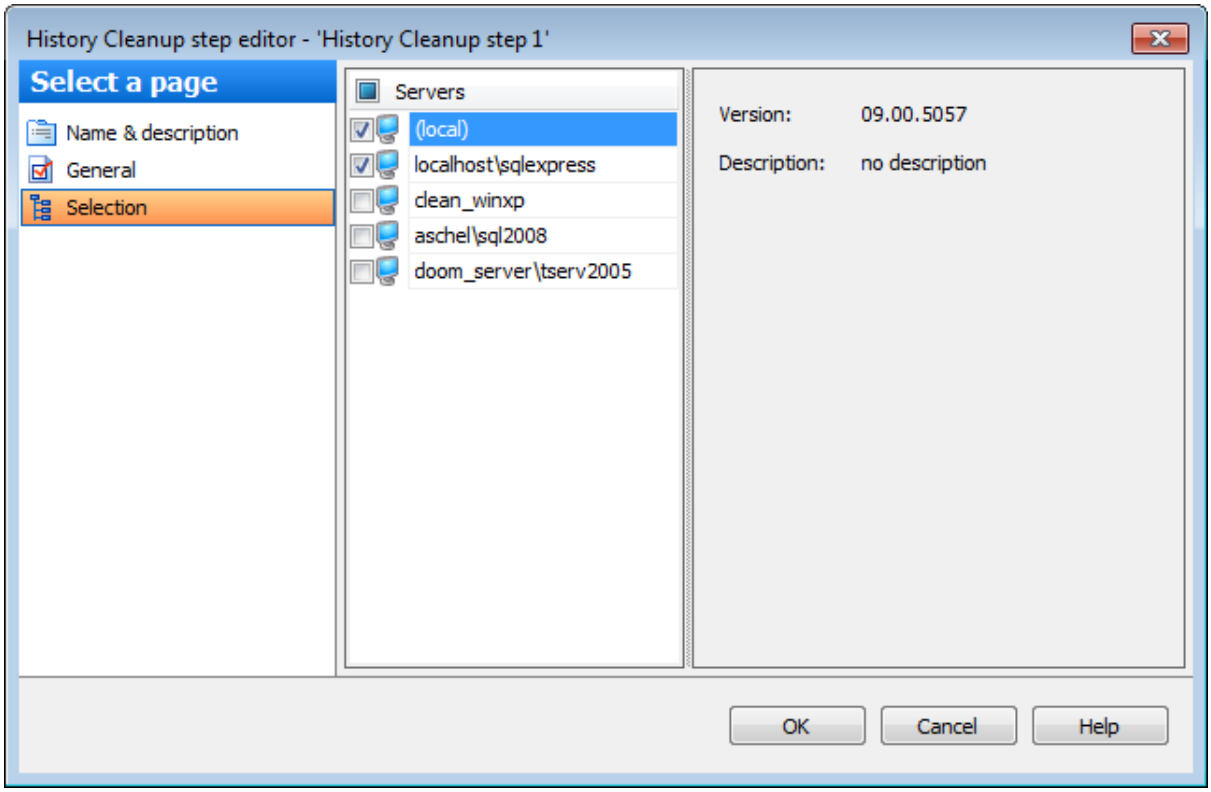
7.2.4.3 Selection

This page allows you to edit servers selection for the operation.



Servers

Select the **servers** to run the operation on. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.
Note: Selecting servers is not available in Template mode. It is selected on applying the Step Template in Policy.

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7.2.5 Database Integrity Check

Database Integrity Check step editor provides the same set of options as Database Integrity Check wizard.

The following pages are available in this dialog:
Name and description
General
Selection

See also:
Backup database
Execute SQL Server Agent job
Execute T-SQL statement
History Cleanup
Shrink Database
Reorganize Indices
Update Statistics
Database Parameters Logger
Maintenance Cleanup
Transaction Log Shipping

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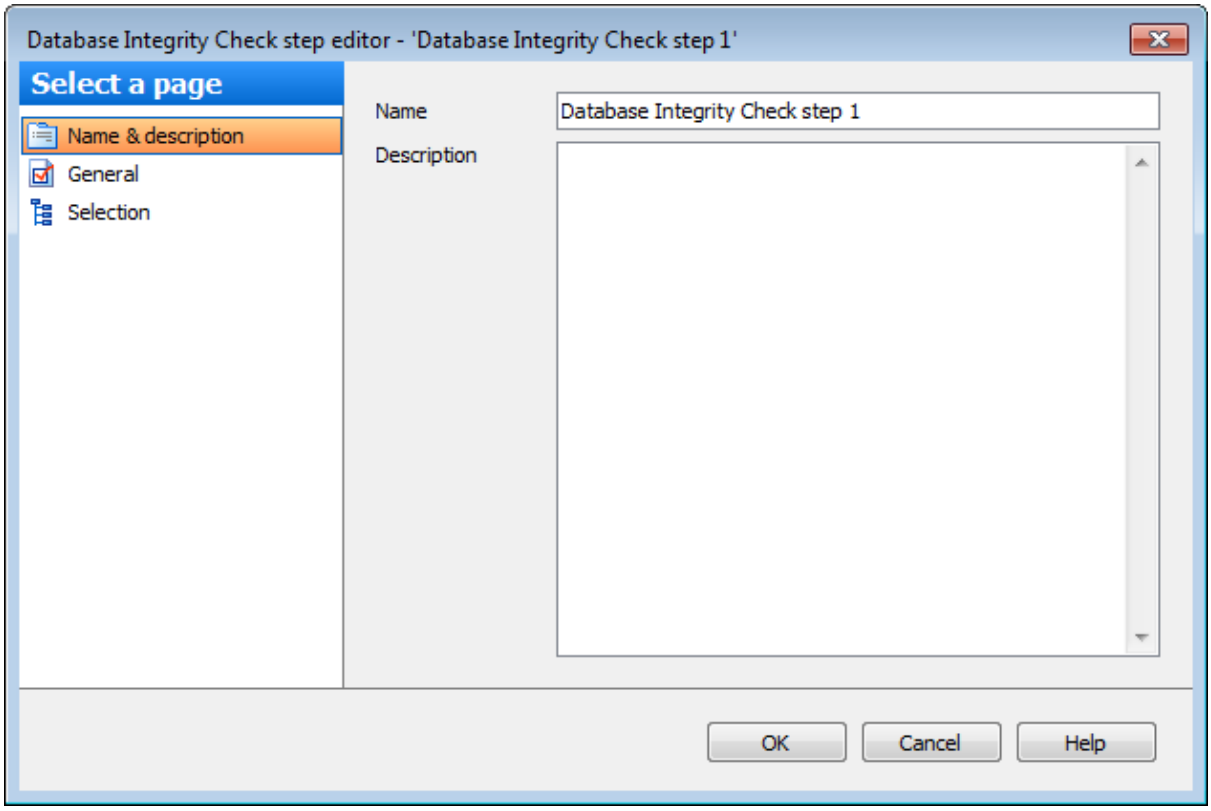
7.2.5.1 Name and description

This page allows you to view\edit the step name and description.



Task name
Use this field to name the step.

Description
This field allows you to define step description.

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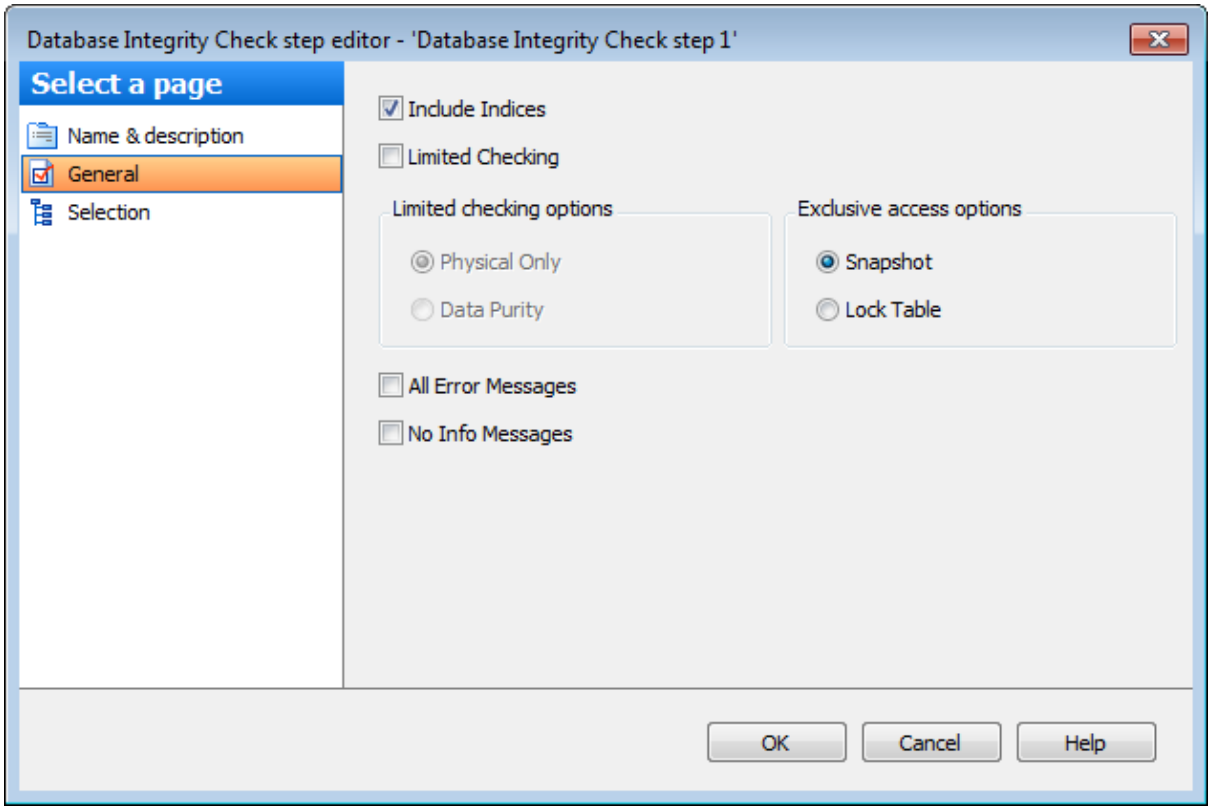
7.2.5.2 General

At this page you can edit general options of the step.



Include Indices
The option indicates that indices are included in database integrity check.

Limited Checking
Use this option if you need to restrict database integrity check.

Physical Only
This option (*PHYSICAL_ONLY*) limits the checking operation to the integrity of the physical structure of the page and record headers, the physical structure of B-trees and the allocation consistency of the database. Designed to provide a small overhead check of the physical consistency of the database, this check can also detect torn pages, checksum failures, and common hardware failures that can compromise a user's data.

Data Purity
If this option (*DATA_PURITY*) is enabled, the *DBCC CHECKDB* statement checks the database for column values that are not valid or out-of-range.

Exclusive access options limits the checks that are performed:
Snapshot
Enable the option to use an internal database snapshot for the transactional consistency needed to perform database integrity checks.

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Lock Table
If this option (*TABLOCK*) is used, the *DBCC CHECKDB* statement obtains locks instead of using an internal database snapshot. This includes a short-term database exclusive lock.

All Error Messages
This option (*ALL_ERRORMSGS*) displays an unlimited number of errors per object.

No Info Messages
This option (*NO_INFOMSGS*) suppresses all informational messages.

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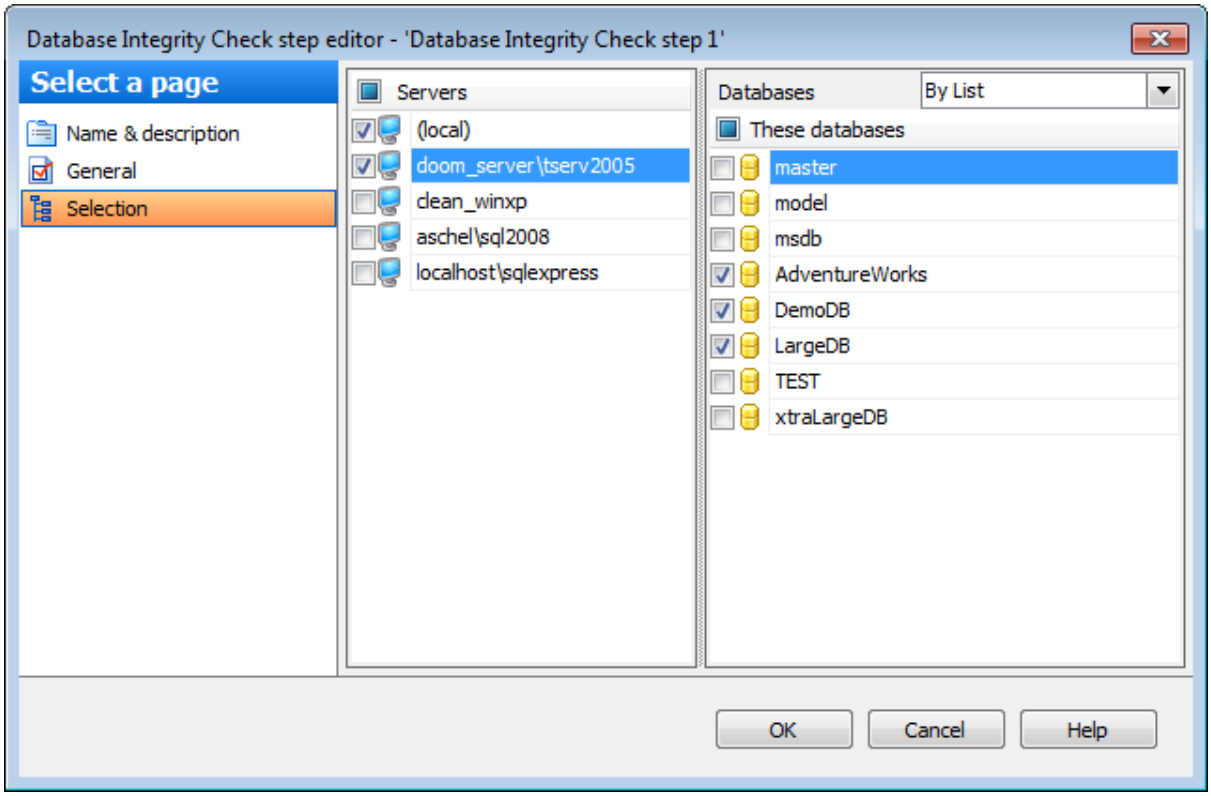
7.2.5.3 Selection

This page allows you to edit objects selection for integrity check.



Servers

Select the **servers** to run the operation on. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.
Note: Selecting servers is not available in Template mode. It is selected on applying the Step Template in Policy.

Databases

All
Use this option to select both: system and user databases.

All system
This option indicates that only system databases should be backed up.

All user
Select this option to back up user databases only.

By mask
This option allows defining database selection by mask. Use ***** for a set of any characters and **?** for any single character in the database name.

By list

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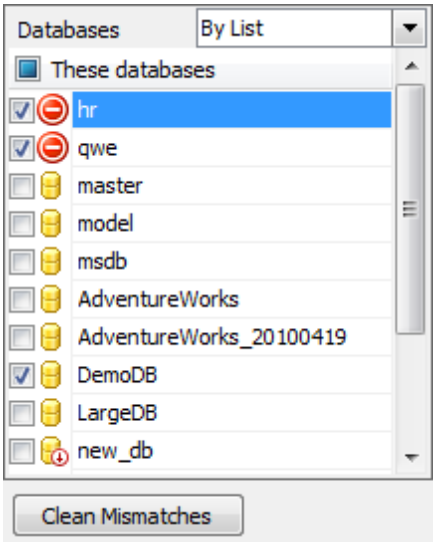
This option allows you to select databases manually.
If you are creating a step template then you can add a database to the list by using the button or *Ins* key.

Note: The server is selected on applying the Step Template in Policy.

When you are editing a step on creating a policy from template then if the database(s) defined on the Selecting database step are missed on the selected server the list of databases will be the following.



Click the **Clean Mismatches** button to delete the missed databases from the list for the policy cannot be executed for them.

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7.2.6 Shrink Database

Shrink Database step editor provides the same set of options as Shrink Database wizard.

The following pages are available in this dialog:
Name and description
General
Selection

See also:
Backup database
Execute SQL Server Agent job
Execute T-SQL statement
History Cleanup
Database Integrity Check
Reorganize Indices
Update Statistics
Database Parameters Logger
Maintenance Cleanup
Transaction Log Shipping

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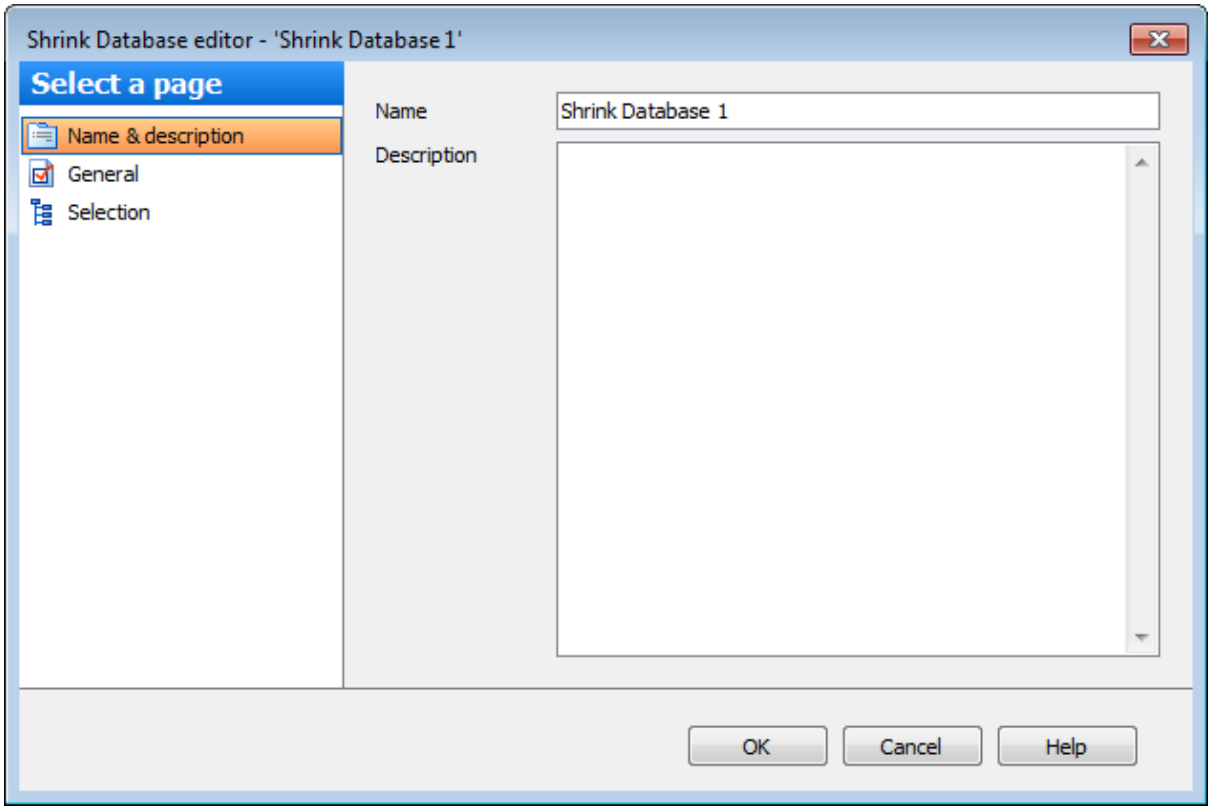
7.2.6.1 Name and description

This page allows you to view\edit the step name and description.



Task name
Use this field to name the step.

Description
This field allows you to define step description.

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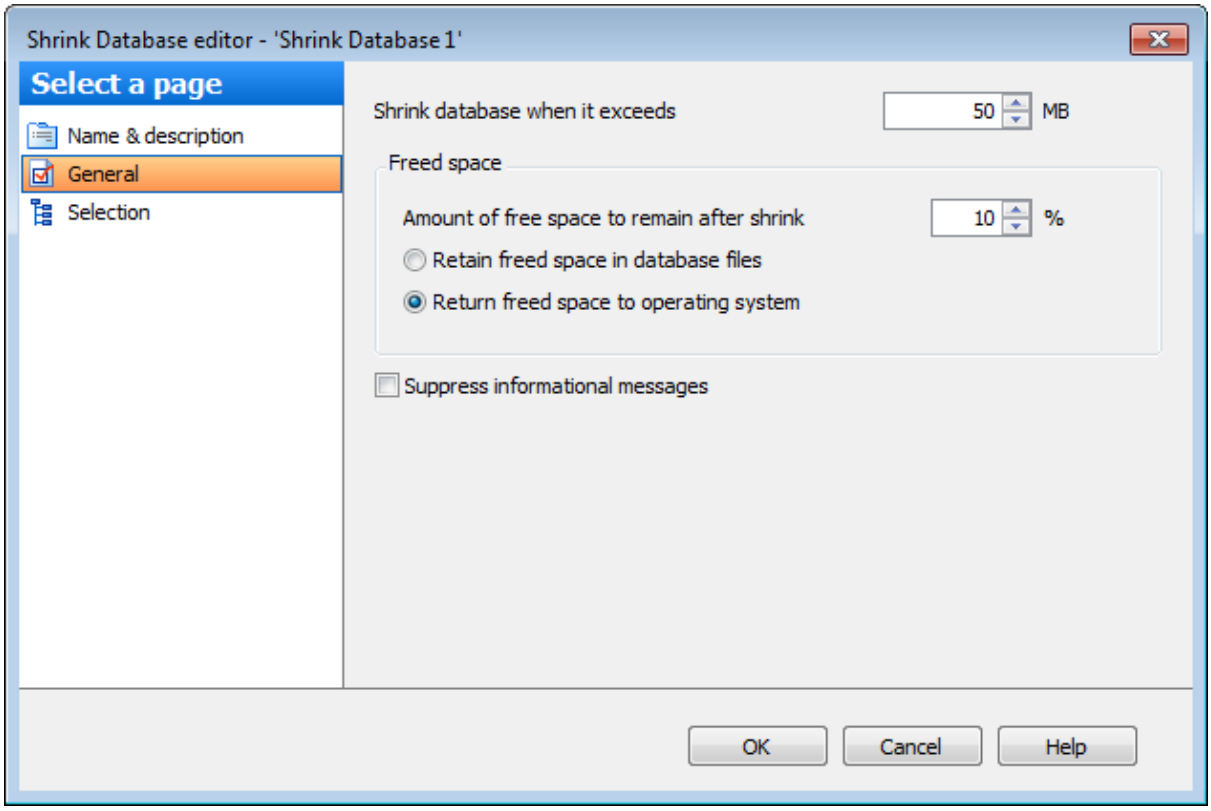
7.2.6.2 General

At this page you can edit general options for **Shrink Database** step.



Shrink database when it exceeds
Set database size limit. Database will be shrunk when its size goes over this limit.

Amount of free space to remain after shrink
Use this field to define percentage of free space that will be left in database file after it is shrunk.

You need to decide whether freed space should be **retained in database files** or **returned to operating system**.

Suppress informational messages
Enable the option to disable informational messages.

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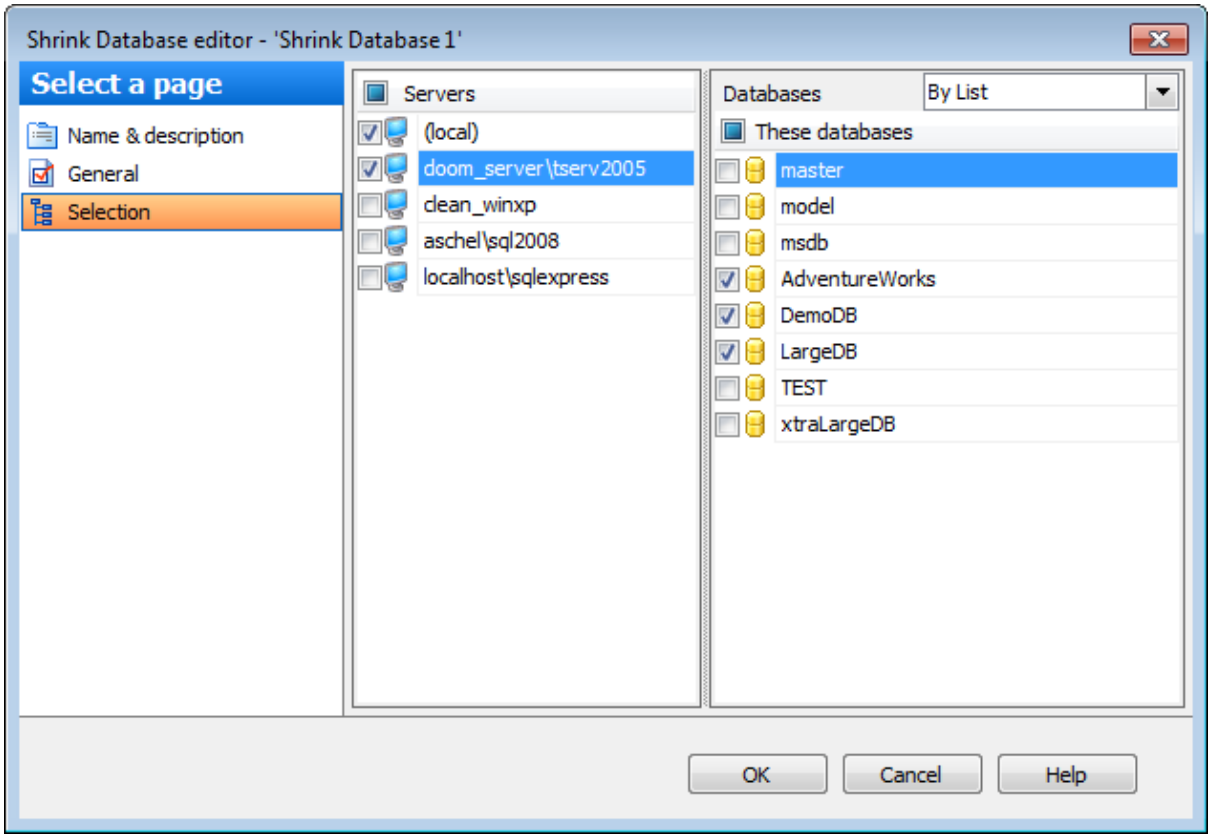
7.2.6.3 Selection

This page allows you to edit database selection to shrink.



Servers

Select the **servers** to run the operation on. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.
Note: Selecting servers is not available in Template mode. It is selected on applying the Step Template in Policy.

Databases

All
Use this option to select both: system and user databases.

All system
This option indicates that only system databases should be shrinked.

All user
Select this option to shrink user databases only.

By mask
This option allows defining database selection by mask. Use ***** for a set of any characters and **?** for any single character in the database name.

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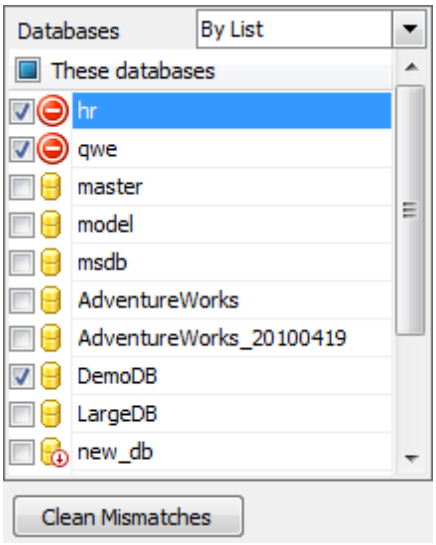
By list
This option allows you to select databases manually.
If you are creating a step template then you can add a database to the list by using the button or *Ins* key.

Note: The server is selected on applying the Step Template in Policy.

When you are editing a step on creating a policy from template then if the database(s) defined on the Selecting database step are missed on the selected server the list of databases will be the following.



Click the **Clean Mismatches** button to delete the missed databases from the list for the policy cannot be executed for them.

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7.2.7 Reorganize Indices

Reorganize Indices step editor provides the same set of options as Reorganize Indices wizard.

The following pages are available in this dialog:
Name and description
General
Selection
Rebuild options

See also:
Backup database
Execute SQL Server Agent job
Execute T-SQL statement
History Cleanup
Database Integrity Check
Shrink Database
Update Statistics
Database Parameters Logger
Maintenance Cleanup
Transaction Log Shipping

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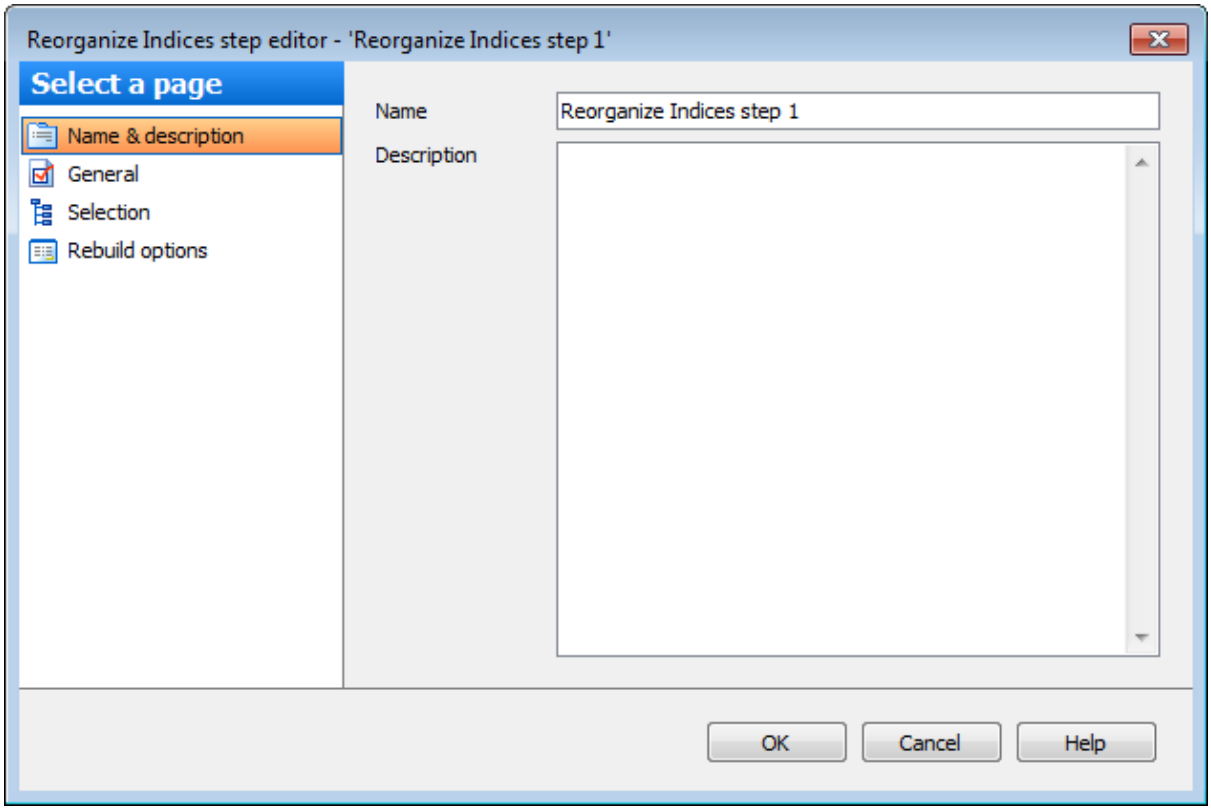
7.2.7.1 Name and description

This page allows you to view\edit the step name and description.



Task name
Use this field to name the step.

Description
This field allows you to define step description.

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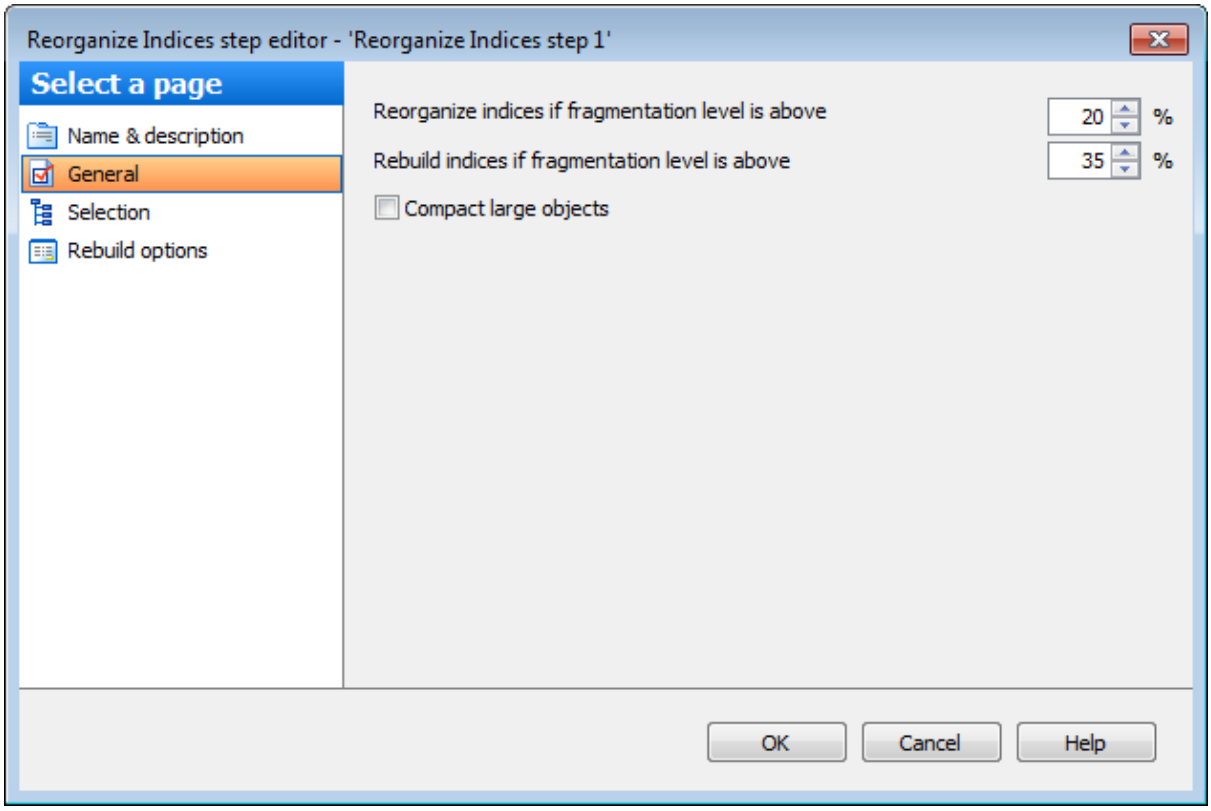
7.2.7.2 General

At this page you can edit general options of the step.



Reorganize indices if fragmentation level is above
Define the fragmentation limits. Exceeding this limits considers the indices to be reorganized.

Rebuild indices if fragmentation level is above
Define the fragmentation limits. Exceeding this limits considers the indices to be rebuilt.

☑ **Compact large objects**
Enable this option to compact *image*, *text*, *ntext*, *varchar(max)*, *nvarchar(max)*, *varbinary(max)* and *xml* data.

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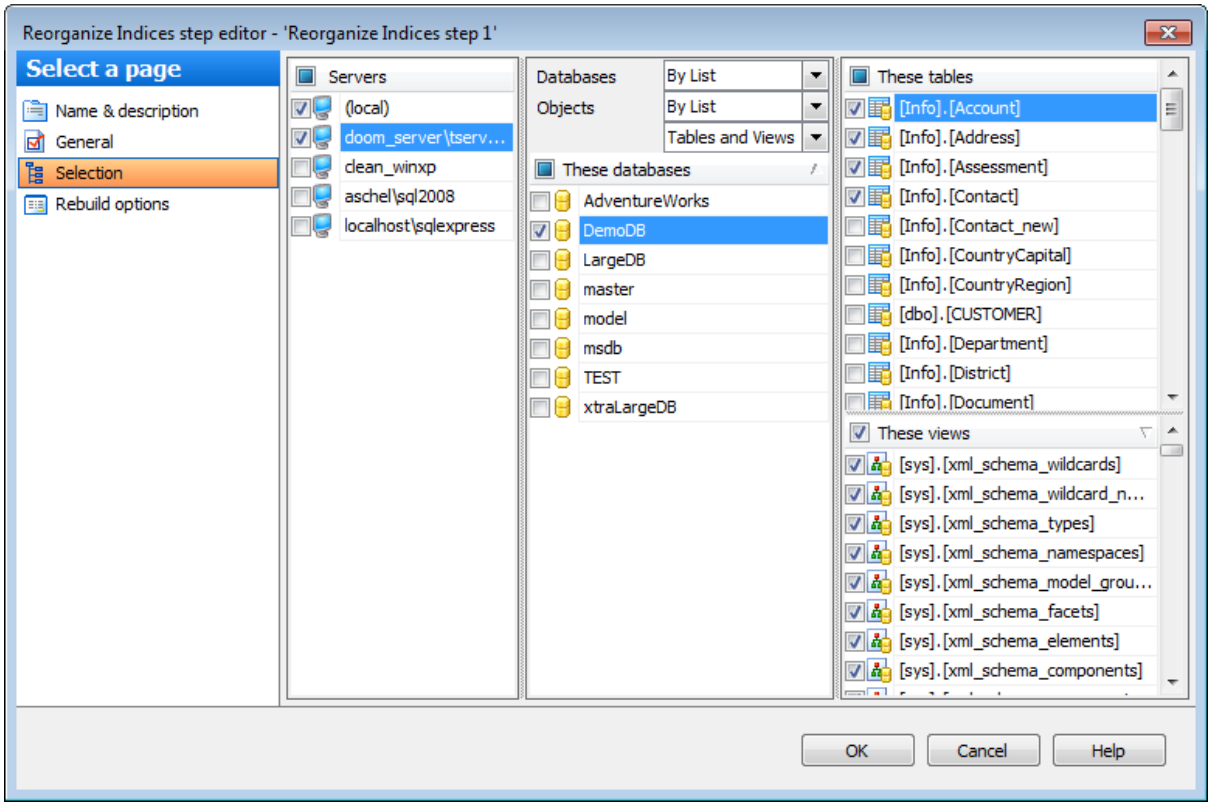
7.2.7.3 Selection

This page allows you to edit object selection for indices reorganization.



Servers

Select the **servers** to run the operation on. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.
Note: Selecting servers is not available in Template mode. It is selected on applying the Step Template in Policy.

Databases and objects

All
Use this option to select both: system and user objects.

All system
This option indicates that only system objects should be selected.

All user
Select this option to select user objects only.

By mask
This option allows defining objects selection by mask. Use ***** for a set of any characters and **?** for any single character in the object name.

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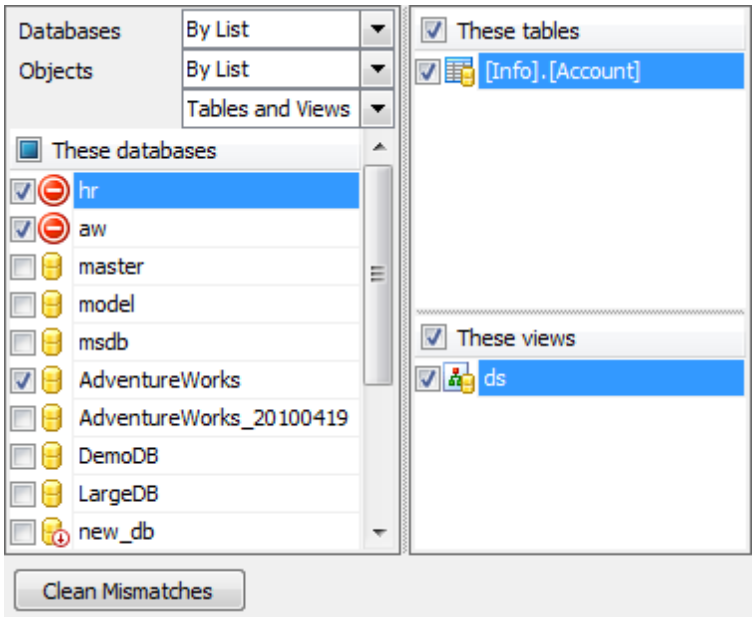
By list
This option allows you to select objects manually.
If you are creating a step template then you can add a database to the list by using the button or *Ins* key.

Note: The server is selected on applying the Step Template in Policy.

When you are editing a step on creating a policy from template then if the database(s)/ table(s)/view(s) defined on the Selecting objects step are missed on the selected server the list of database(s)/table(s)/view(s) will be the following.



Click the **Clean Mismatches** button to delete the missed database(s)/table(s)/view(s) from the list for the policy cannot be executed for them.

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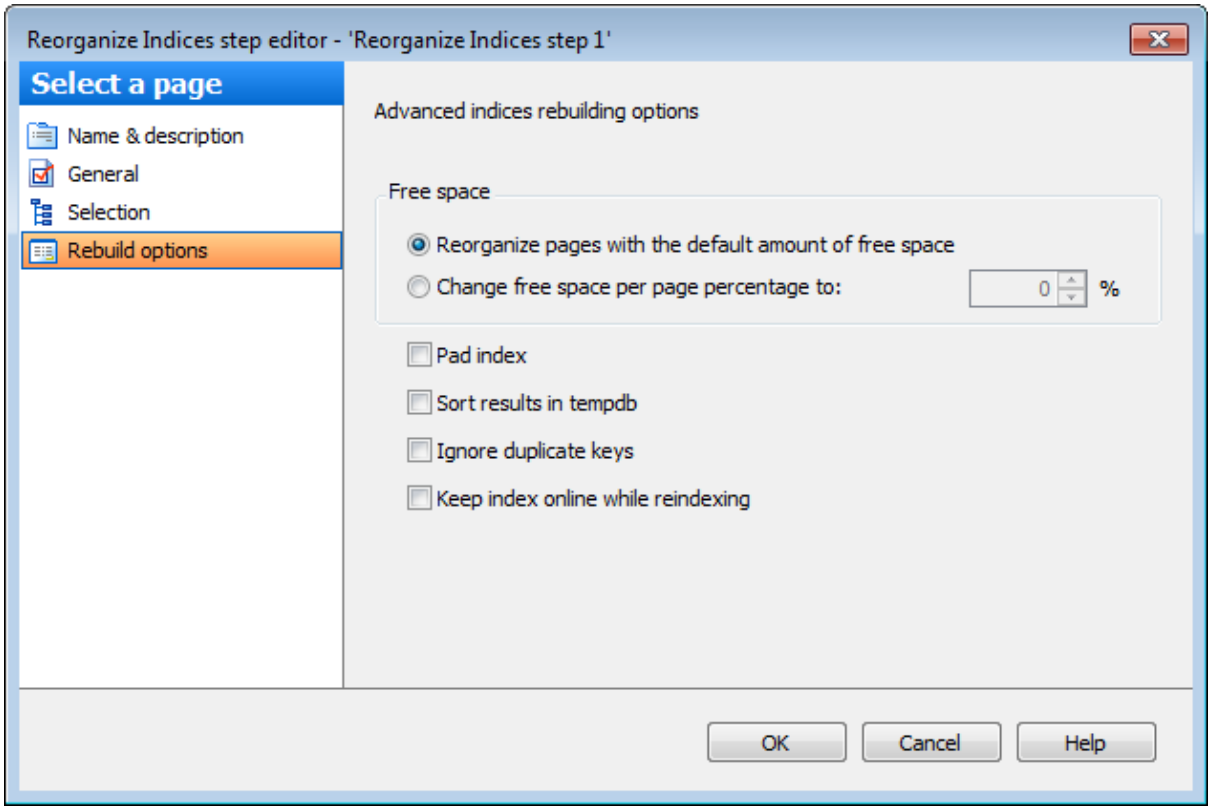
7.2.7.4 Rebuild options

This tab provides a number of advanced options for index reorganizing.



Free space
Define which pages should be reorganized: ones with the **default** or **specified** amount of **free space per page**.

Pad index
Enable this option to leave the space open on each page in the intermediate levels of index.

Sort results in tempdb
This option indicates that intermediate sort results used to rebuild indices will be stored in the tempdb database.

Ignore duplicate keys
If the option is enabled then duplicate keys will be ignored.

Keep index online while reindexing
This option determines whether concurrent user access to the underlying table or clustered index data and any associated non-clustered indexes is allowed while reindexing.

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7.2.8 Update Statistics

Update Statistics step editor provides the same set of options as Update Statistics wizard.

The following pages are available in this dialog:
Name and description
General
Selection

See also:
Backup database
Execute SQL Server Agent job
Execute T-SQL statement
History Cleanup
Database Integrity Check
Shrink Database
Reorganize Indices
Database Parameters Logger
Maintenance Cleanup
Transaction Log Shipping

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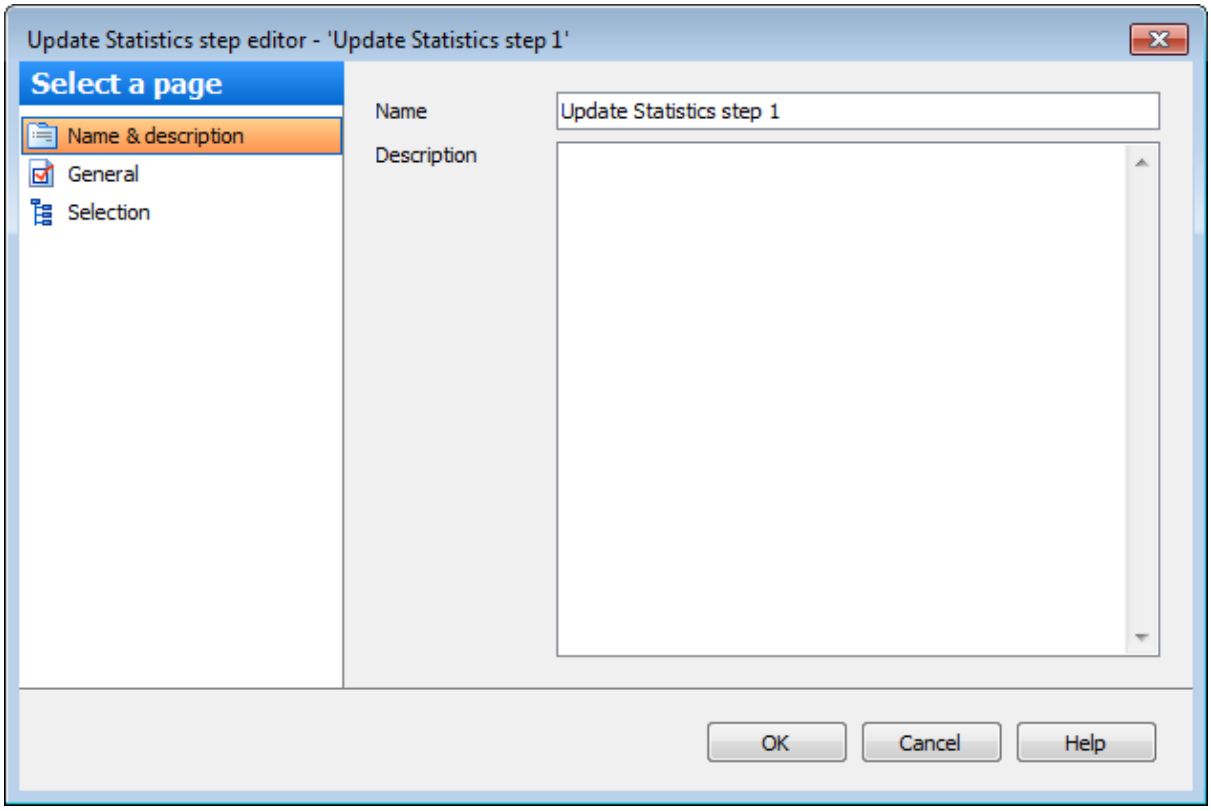
7.2.8.1 Name and description

This page allows you to view\edit the step name and description.



Task name
Use this field to name the step.

Description
This field allows you to define step description.

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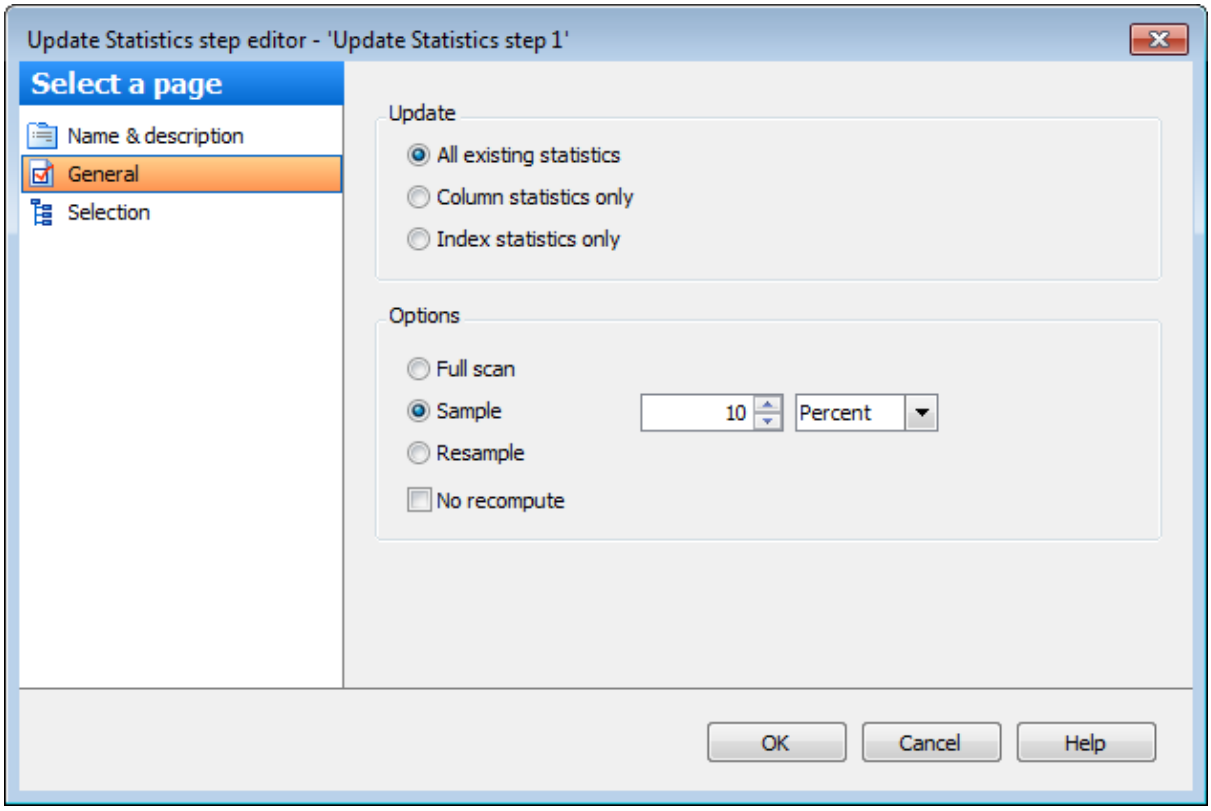
7.2.8.2 General

At this page you can edit general options of **Update Statistics** step.



All existing statistics
Select this option if you need to update all statistics.

Column statistics only
Use this option to update column statistics only.

Index statistics only
This option indicates that only index statistics will be updated.

Full scan
Specifies that all rows in table or view should be read to gather the statistics. This option provides the same behavior as **Sample 100 Percent**.

Sample
Specifies the percentage of the table or indexed view, or the number of rows to sample when collecting statistics for larger tables or views.

Resample
Option specifies that statistics will be gathered using an inherited sampling ratio for all existing statistics including indexes. If the sampling ratio results in too few rows being sampled, SQL Server automatically corrects the sampling based on the number of existing

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rows in the table or view.

No recompute
Disable the option to recompute statistics that become out of date automatically.

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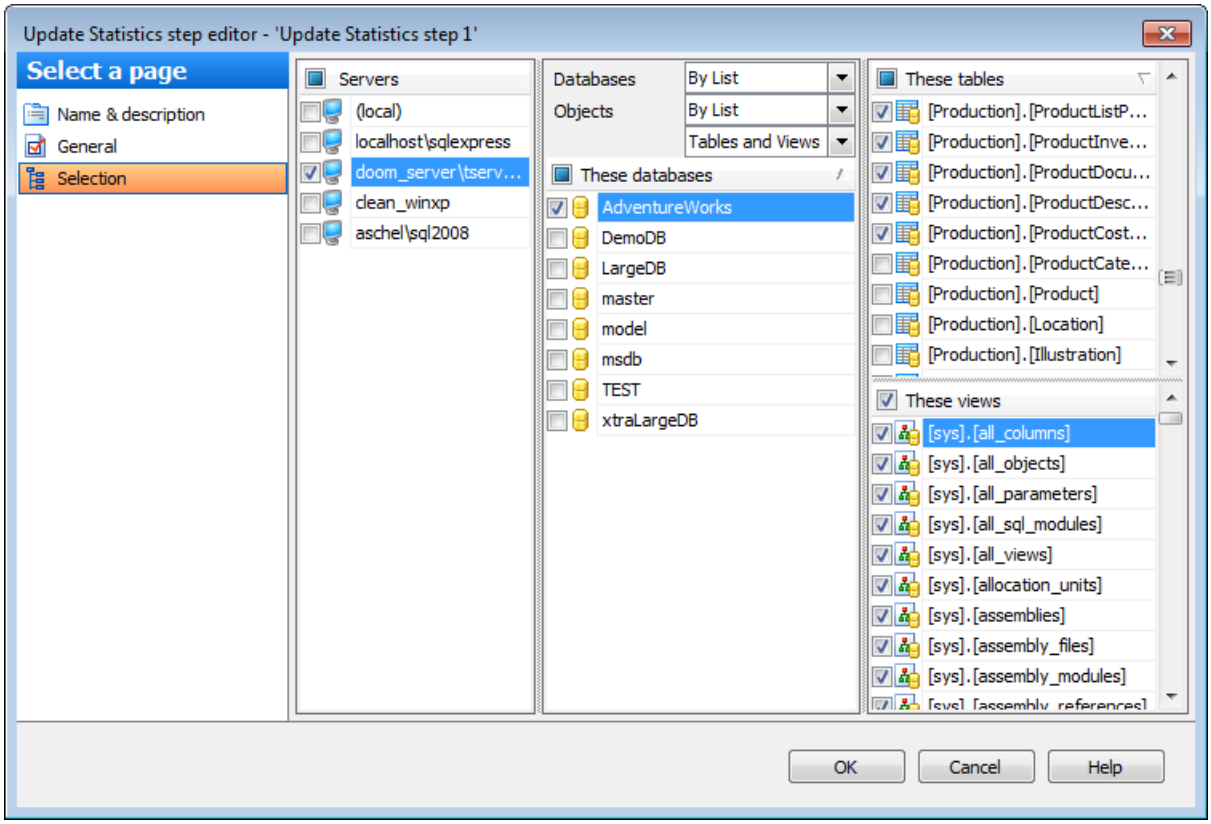
7.2.8.3 Selection

This page allows you to edit object selection to update statistics.



Servers

Select the **servers** to run the operation on. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.
Note: Selecting servers is not available in Template mode. It is selected on applying the Step Template in Policy.

Databases and objects

All
Use this option to select both: system and user objects.

All system
This option indicates that only system objects should be selected.

All user
Select this option to select user objects only.

By mask
This option allows defining objects selection by mask. Use ***** for a set of any characters and **?** for any single character in the object name.

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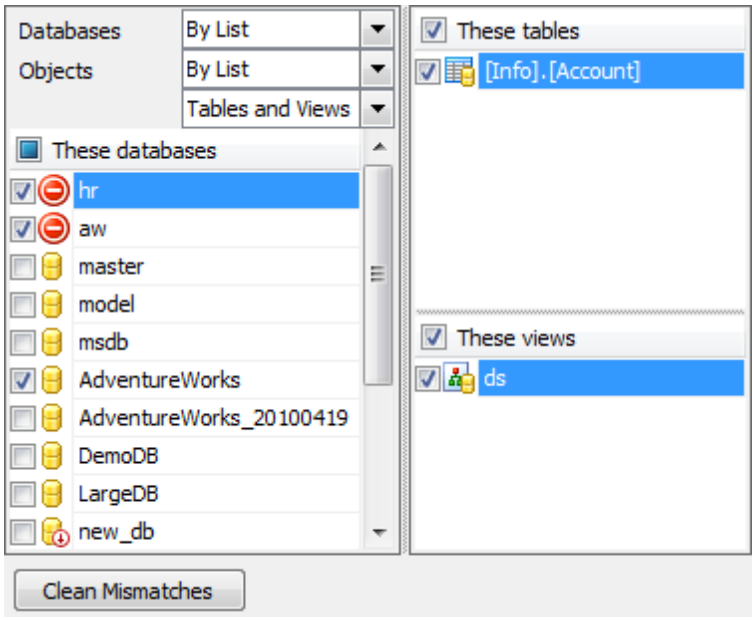
By list
This option allows you to select objects manually.
If you are creating a step template then you can add a database to the list by using the button or *Ins* key.

Note: The server is selected on applying the Step Template in Policy.

When you are editing a step on creating a policy from template then if the database(s)/ table(s)/view(s) defined on the Selecting objects step are missed on the selected server the list of database(s)/table(s)/view(s) will be the following.



Click the **Clean Mismatches** button to delete the missed database(s)/table(s)/view(s) from the list for the policy cannot be executed for them.

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7.2.9 Database Parameters Logger

Database Parameters Logger step editor provides the same set of options as Database Parameters Logger wizard.

The following pages are available in this dialog:
Name and description
General
Selection

See also:
Backup database
Execute SQL Server Agent job
Execute T-SQL statement
History Cleanup
Database Integrity Check
Shrink Database
Reorganize Indices
Update Statistics
Maintenance Cleanup
Transaction Log Shipping

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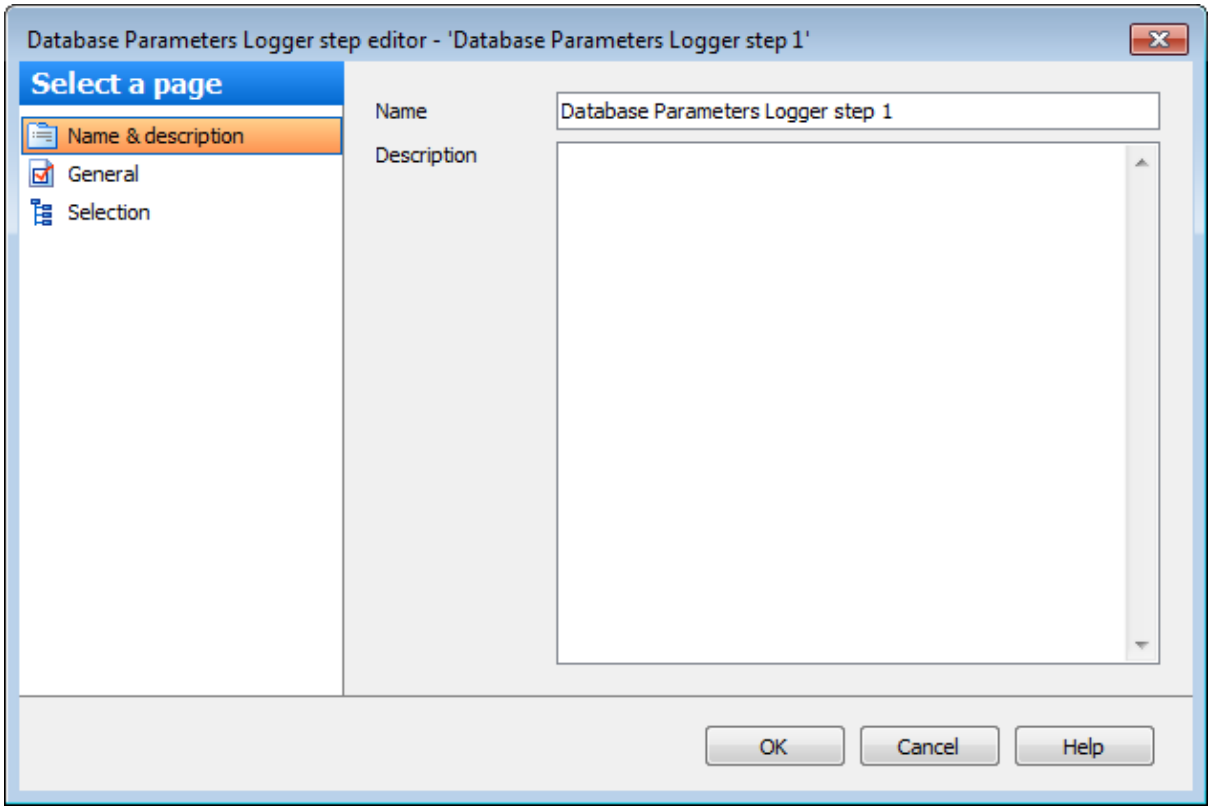
7.2.9.1 Name and description

This page allows you to view\edit the step name and description.



Task name
Use this field to name the step.

Description
This field allows you to define step description.

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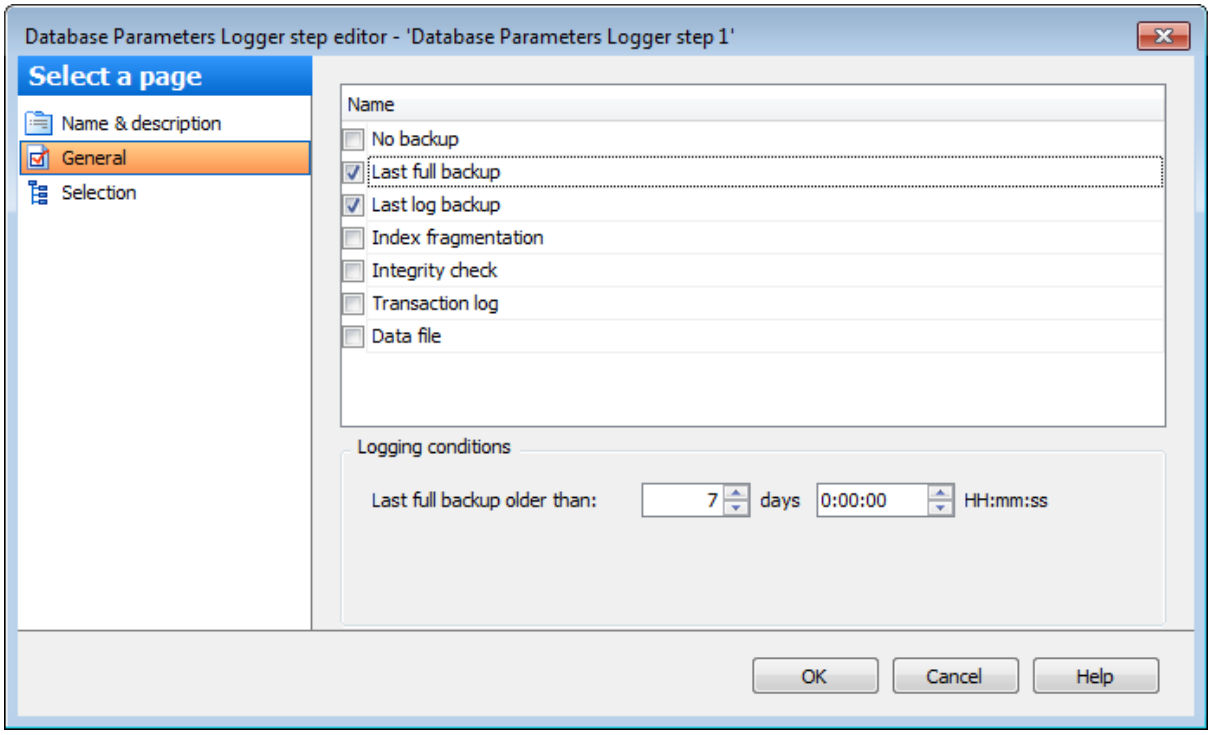
7.2.9.2 General

At this page you can edit general options of **Database Parameters Logger** step.



The options below allow you to define conditions which SQL Angel should perform logging by.

☑ **No backup**
Enable this option to log the list of databases with no backup.

☑ **Last full backup**
The option should be used to log the list of databases with old full backups.

Last full backup older than
Defines the time point relatively to current date. The list of databases with full backup made before this point will be logged.

☑ **Last log backup**
Use this option to log the list of databases with old log backups.

Last log backup older than
Define the time point relatively to current date. The list of databases with log backup made before this point will be logged.

☑ **Index fragmentation**
Enable this option to log the list of databases with high fragmentation.

Index fragmentation more than

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Define the level of index fragmentation. Databases list with index fragmentation level above specified will be added to log.

Only check indices with more than
This option indicates that only indices with page amount above specified will be checked.

☑ **Integrity check (SQL Server 2005 or higher)**
Enable this option to log the list of databases with out-of-date integrity check.

Last integrity check older than
Define the time point relatively to current date. The list of databases with integrity check made before this point will be added to log.

☑ **Transaction log**
Enable this option to log the list of databases with transaction log free space below the specified limit.

Free space is less than
This option defines transaction log free space limit. Log includes list of databases with amount of free space less than this limit.

Log file is larger than
This option adds log file size condition. List of databases which transaction log file is larger than the specified limit will be included to log.

☑ **Data file**
This option indicates that log should include databases with data file free space below the specified limit.

Free space is less than
Use this option to define the data file free space limit.

Data file is larger than
Use this option to define data file size condition. Databases which data file is above this limit will be added to log.

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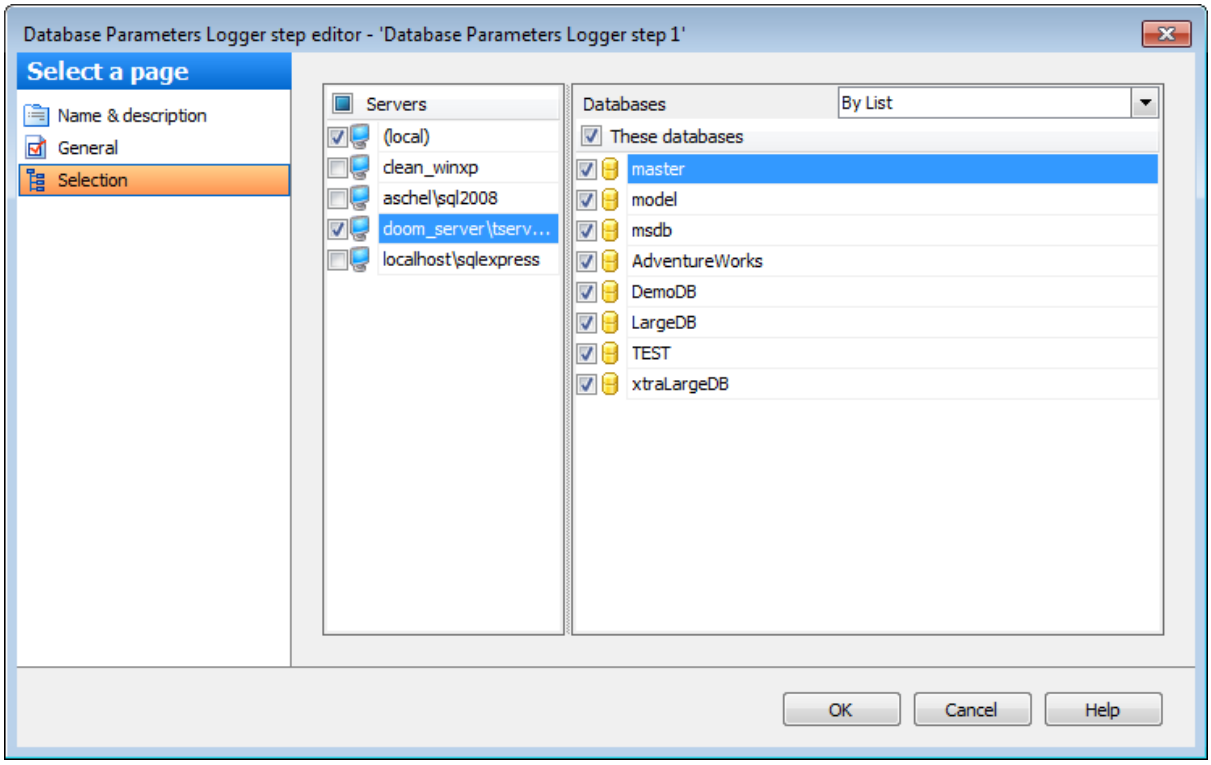
7.2.9.3 Selection

This page allows you to edit database selection to log database parameters.



Servers

Select the **servers** to run the operation on. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.

Note: Selecting servers is not available in Template mode. It is selected on applying the Step Template in Policy.

Databases and objects

All
Use this option to select both: system and user objects.

All system
This option indicates that only system objects should be selected.

All user
Select this option to select user objects only.

By mask
This option allows defining objects selection by mask. Use ***** for a set of any characters and **?** for any single character in the object name.

By list

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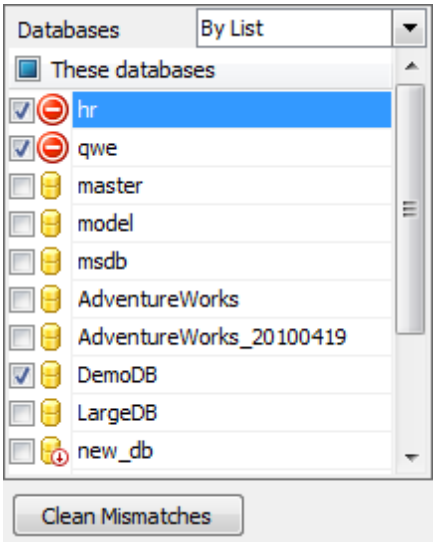
This option allows you to select objects manually.
If you are creating a step template then you can add a database to the list by using the button or *Ins* key.

Note: The server is selected on applying the Step Template in Policy.

When you are editing a step on creating a policy from template then if the database(s) defined on the Selecting database step are missed on the selected server the list of databases will be the following.



Click the **Clean Mismatches** button to delete the missed databases from the list for the policy cannot be executed for them.

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7.2.10 Maintenance Cleanup

Maintenance Cleanup step editor provides the same set of options as Maintenance Cleanup wizard.

The following pages are available in this dialog:
Name and description
General
Selection

See also:
Backup database
Execute SQL Server Agent job
Execute T-SQL statement
History Cleanup
Database Integrity Check
Shrink Database
Reorganize Indices
Update Statistics
Database Parameters Logger
Transaction Log Shipping

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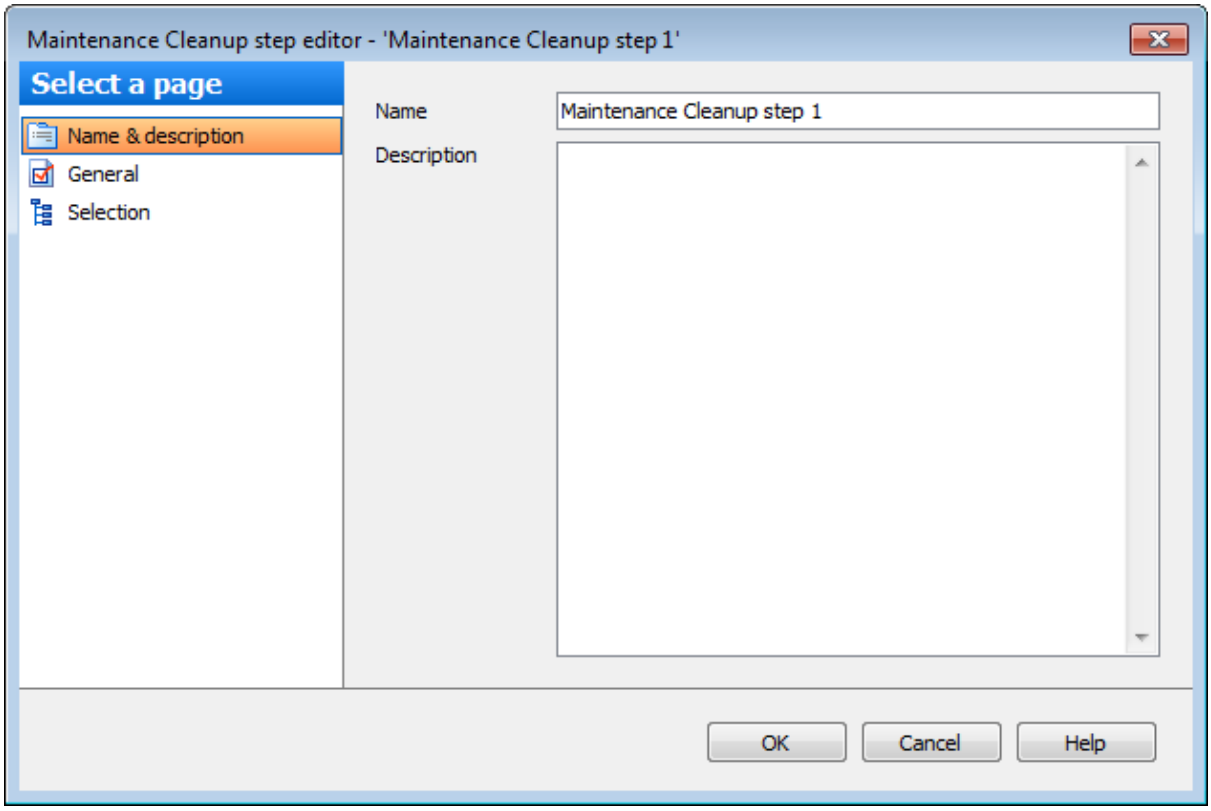
7.2.10.1 Name and description

This page allows you to view\edit the step name and description.



Task name
Use this field to name the step.

Description
This field allows you to define step description.

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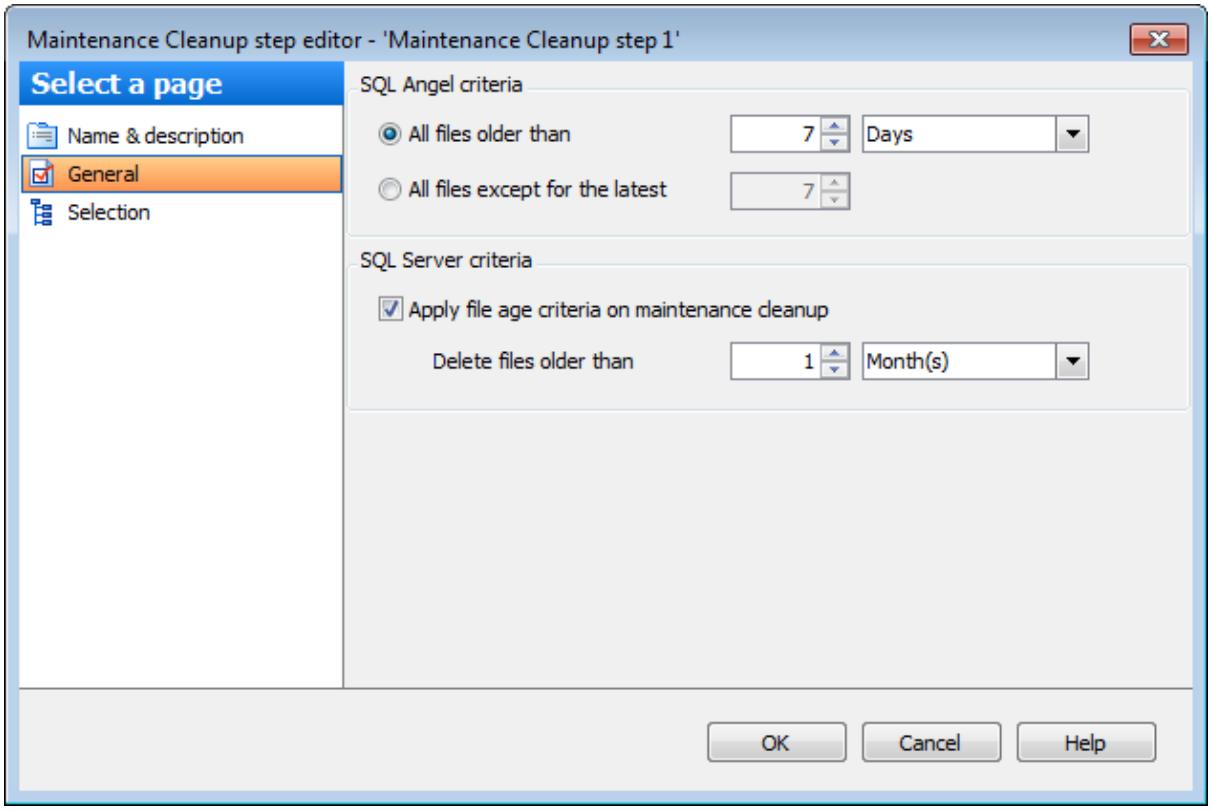
7.2.10.2 General

At this page you can edit general options of **Maintenance Cleanup** step.



SQL Angel criteria

Set conditions for SQL Angel files to be deleted by specifying the date or limiting the number of *latest* files to be saved.

SQL Server criteria

☑ **Apply file age criteria on maintenance cleanup**

Use this option to delete files above the age specified below.

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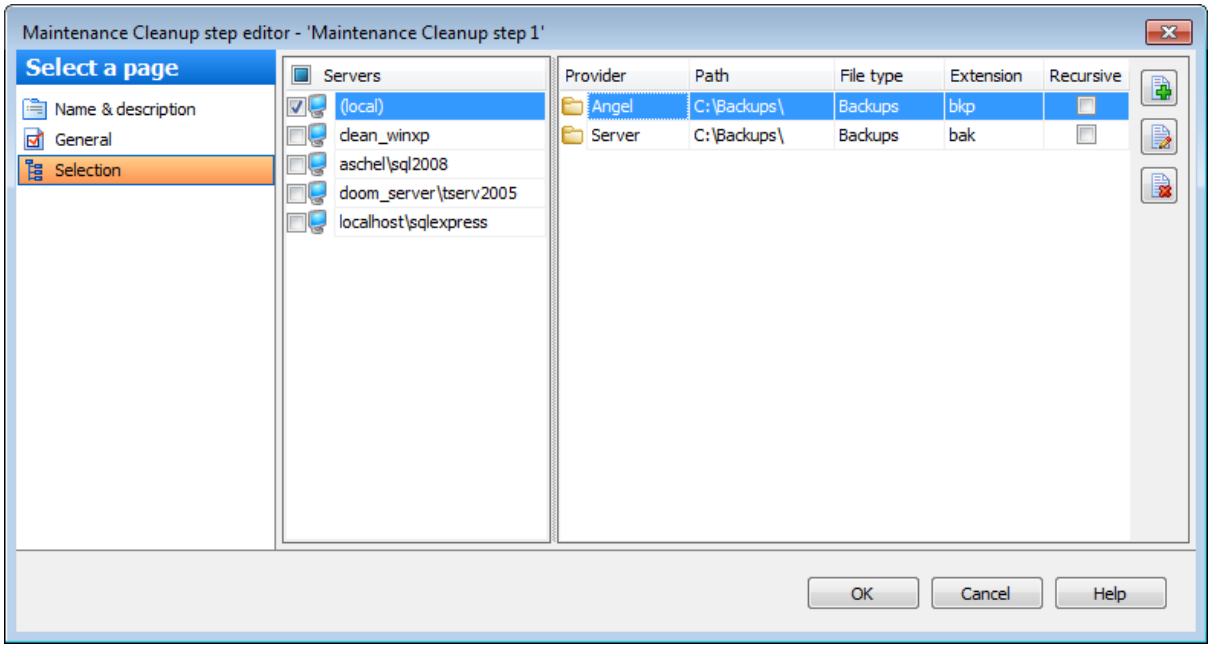
7.2.10.3 Selection

This page allows you to edit server and folder\files selection for maintenance cleanup.



Servers

Select the **servers** to run the operation on. If the servers name icon is grayed out the Angel service is not run (installed) or there is no connection to the server.
Note: Selecting servers is not available in Template mode. It is selected on applying the Step Template in Policy.

Use **Add file or folder specification** to add a cleanup destination and **Edit specification**, **Remove selected** specification for appropriate actions.

Cleanup specification

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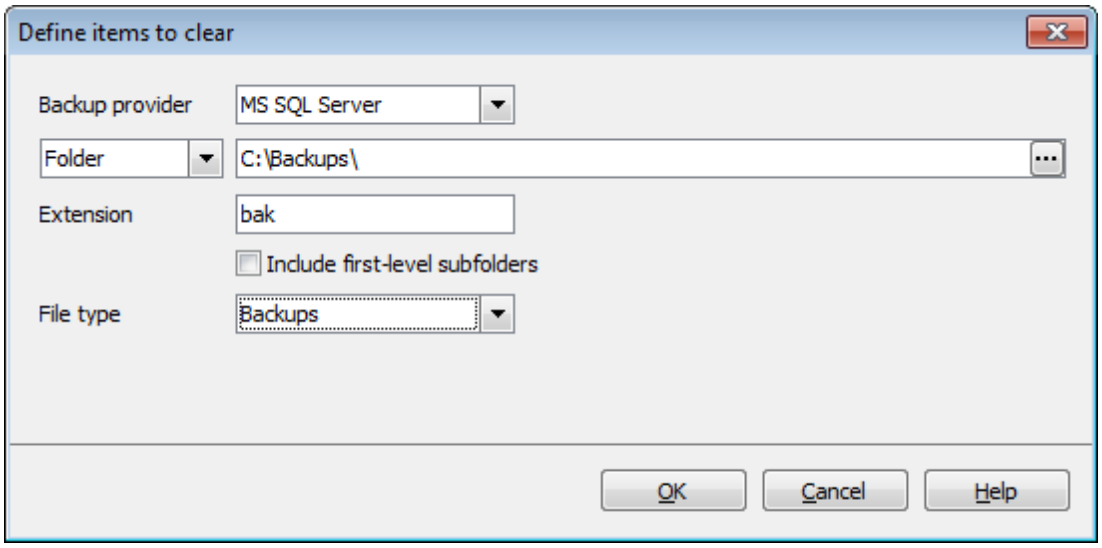

Backup provider
Select whether the files created by *SQL Angel* or *SQL Server* will be cleaned.

Folder
Set the search folder for the files. The path is set relatively to the server which you selected in the Server list.

Extension
Specify the custom extension for backup or report files if it differs from the default.

Enable ☑ **Include subfolders** option if you need to cleanup all sub-folders of the specified folder.

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7.2.11 Transaction Log Shipping

Transaction Log Shipping step editor provides the same set of options as Transaction Log Shipping wizard.

The following pages are available in this dialog:
Name and description
General
Selection

See also:
Backup database
Execute SQL Server Agent job
Execute T-SQL statement
History Cleanup
Database Integrity Check
Shrink Database
Reorganize Indices
Update Statistics
Database Parameters Logger
Maintenance Cleanup

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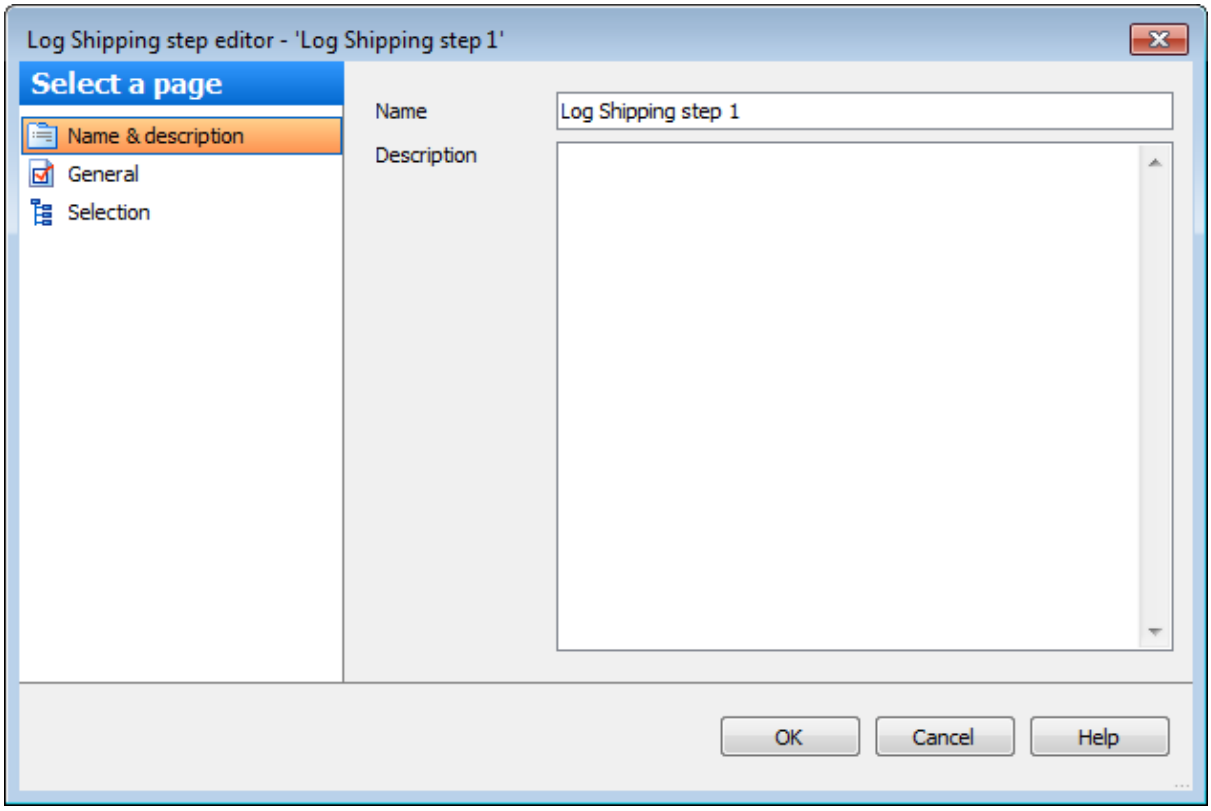
7.2.11.1 Name and description

This page allows you to view\edit the step name and description.



Name
Use this field to name the step.

Description
This field allows you to define step description.

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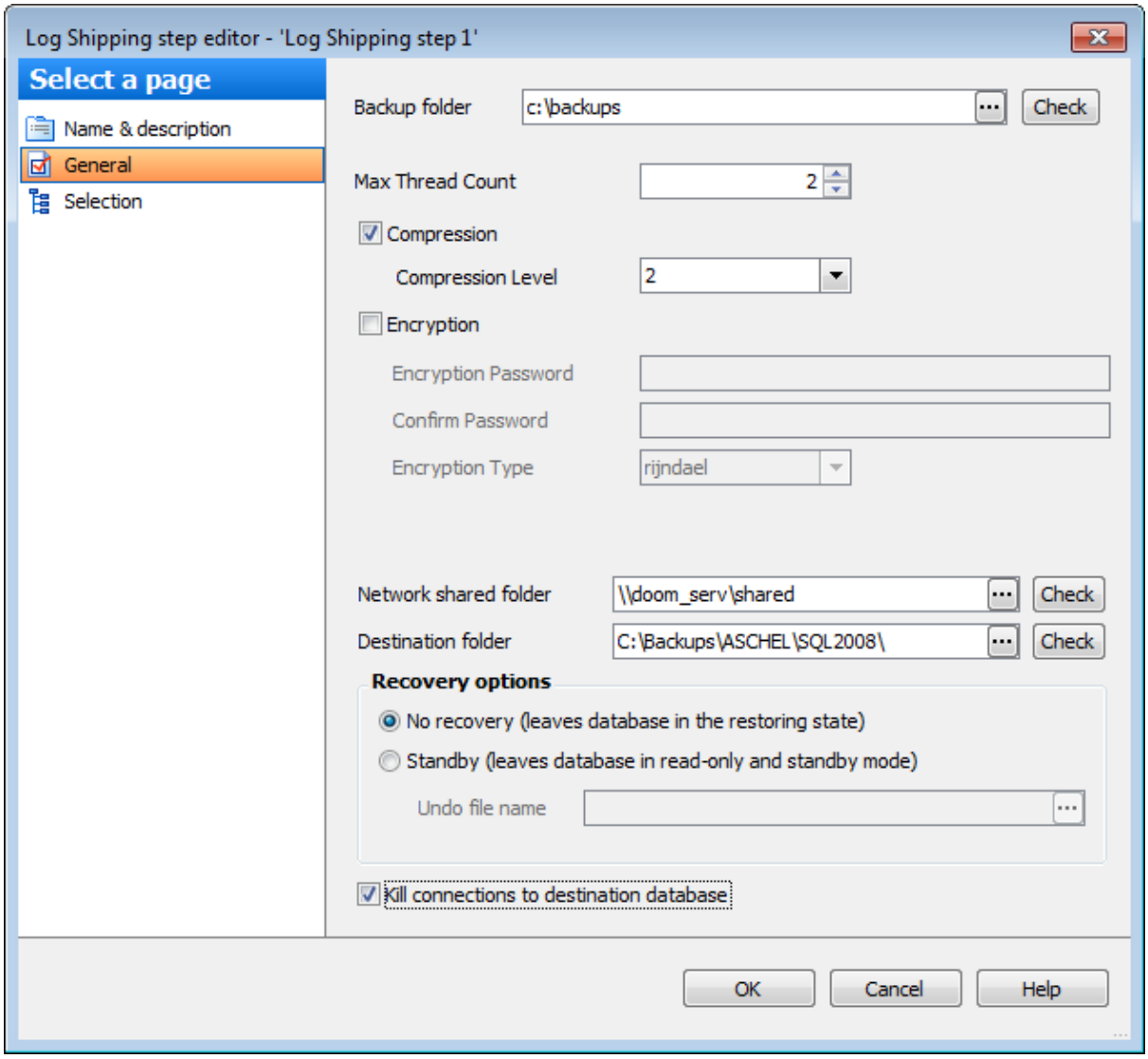
7.2.11.2 General

This page is used to define options for log shipping step.



Backup folder
Specify the directory for backup. It is set relatively the source server. You can check availability of this folder by clicking the corresponding button.

Max Thread Count
Indicates the number of threads to be used for backup operation. Increase the number of threads for faster speed. If you are using a multi-processor system, increasing this value can fasten backup speed. You are recommended to set one thread fewer than the number of processors.

Compression
Enable the option to compress backup.

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Compression Level
Defines backup file compression level. Use '1' for best speed and '4' for best compression.

Encryption
Enable the option to encrypt backup.

Encryption Password
Set password that is used for backup encryption.

Confirm password
Confirm the password specified as an encryption password above.

Encryption Type
Select the encryption algorithm.

Network shared folder
Specify the backup shared folder for copying transaction log backups of the source database. Both source and destination servers should have access to this folder otherwise log shipping cannot be performed. Click the **Check** button to make sure that the folder is accessible by both servers.

Destination folder
Specify the destination server folder where backups will be shipped to. This folder is set relatively to the destination server.

Recovery options

This group of options allows you to specify the recovery options to be applied to the restore operation. The destination database may be in either the recovering or standby state, which leaves the database available for limited read-only access.

No recovery (leaves database in the restoring state)
This option specifies that the restore operation does not roll back any uncommitted transactions.
NB: When this option is selected, the database is not usable in this intermediate, non-recovered state.
When used with a file or filegroup restore operation, this option forces the database to remain in the restoring state after the restore operation. This is useful in either of the following situations:

- a restore script is being run and the log is always being applied;
- a sequence of file restores is used and the database is not intended to be usable between two of the restore operations.

Standby (leaves database in read-only and standby mode)
This option allows the database to be brought up for read-only access between transaction log restores and can be used with either warm standby server situations or special recovery situations in which it is useful to inspect the database between log restores.

Undo file name
Specify the undo file name, so that the recovery effects can be undone. The same undo file can be used for consecutive restores of the same database.
NB: If free disk space is exhausted on the drive containing the specified undo file name, the restore operation stops.

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Set ☑ **Kill connections to destination database** option ON to forced disconnection of all processes. We recommend to check it, if Overwrite option has been set at Step 2.

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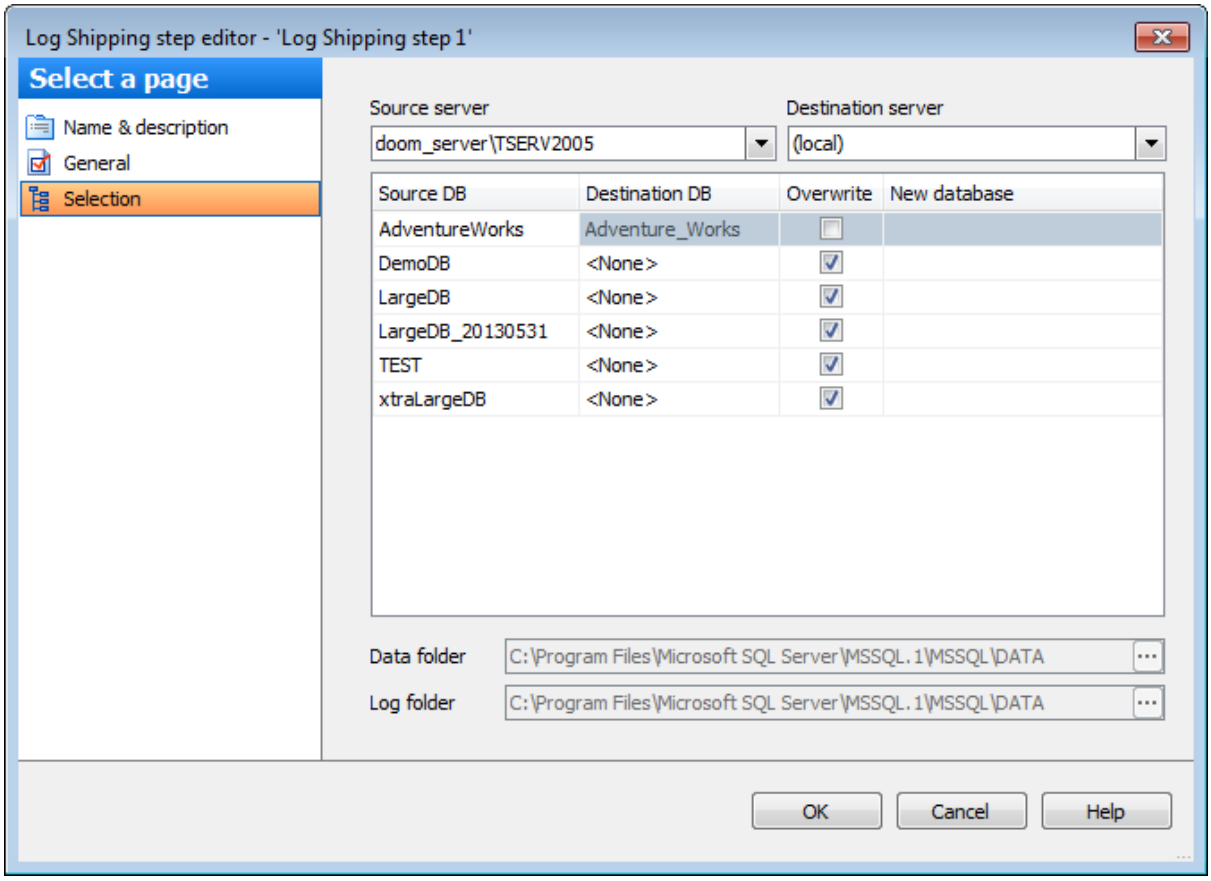
7.2.11.3 Selection

This page allows you to edit database selection to ship transaction logs.



Source server
Select the server where the database that you want to back up to another server is located.

Destination server
Select the server where transaction logs are shipped to from the **Destination server** list.

Set the database pairs in the grid. The backups of transaction logs are performed on the source server and restored on the destination server. If the destination database does not exist, you can select *New database* item in the **Destination DB** column and specify its name in the **New database** column. If the destination database needs rewriting, set the corresponding flag in the **Overwrite** column. Creating and overwriting of the databases is performed by creating a full backup of the source database and its further restoring. Even in case of scheduled execution, creating of a database is executed immediately on wizard finish.

Data folder
Specify the path for data MDF files for the newly created database.

Log folder

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Specify the path for data LDF files for the newly created database.

Note: When creating a template no databases can be selected.

If the **Overwrite** option was selected or you have chosen to create a new database then the first stage of the operation is performed immediately on applying settings (pressing the OK button). On the next step editing the **Overwrite** option will be reset and the *<Create new>* item will be replaced with the created database name.

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Part

8 Gears menu

This chapter contains information concerning personalization of the application. These tools are accessible via pressing the Gears button located in the left-top corner of the SQL Angel window.

Switch Configuration
Save Configuration
This group sets options for storing program settings.

Options
This group includes general options: data security, server refresh, log depth and cloud storages.

See also:
Getting Started
Servers
Policies
Templates
Activities
Maintenance Actions

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8.1 Switch/Save configuration

Program settings are stored in XML format. You can save them either in a separate XML file or in database table. The settings include info concerning server registration, policies, groups and solutions, templates, environment options.

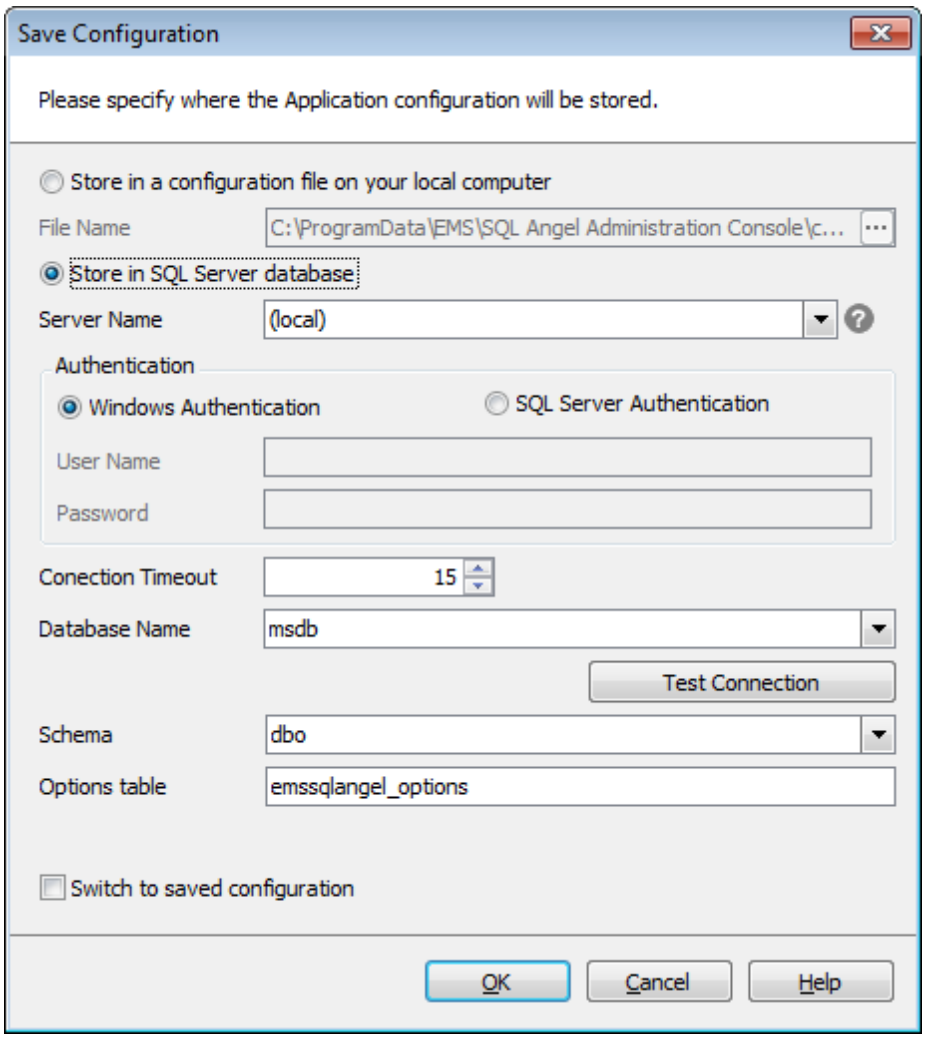
Note: We recommend you to make backups of the table with SQL Angel settings. XML file is backed up automatically on program launch (see .bak file in the current settings folder).

Switch Configuration

You can load different or backed up program configuration using **Switch configuration** SQL Angel Console menu item. The current options, if not saved, will be lost.

Save Configuration

You can save existing configuration using **Save configuration** SQL Angel Console menu item.



Store in a configuration file on your local computer

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Set the path to the settings file and its name in the **File Name** field.

Store in an SQL Server database

Server Name
Select the host from the drop-down list to connect to. The list contains servers found automatically in the local network.
This list is formed using SQL-DMO components function - "ListAvailableSQLServers". If SQL-DMO components are not installed the "NetServerEnum" function from netapi32.dll is used. If neither SQL-DMO components, nor netapi32.dll are installed, the Server name drop-down list will be empty when the program is launched for the first time, and filled with host names already registered in the program, during further launches.
Please note that if Microsoft® SQL Server™ is installed as a named instance, you should input instance name in the 'Server name' field in the following format: computer_name\sqlserver_instance_name or ip_address\sqlserver_instance_name (e.g. "MYCOMPUTER\SQLEXPRESS", "127.0.0.1\SQLEXPRESS").

Note: If a server name cannot be found automatically, type in its name in the field.

Select **Authentication** type to be used for the connection: **Windows Authentication** or **SQL Server authentication**
and set user name and password correspondingly.

Connection timeout
Set timeout limit (in seconds) for establishing connection to the server.

Database Name
Select the database name for loading\saving the configuration from the drop-down menu.

Test Connection
Check whether the connection is established successfully.

Schema is a database schema for configuration table that will store logs and policy table names.

Options Table Name
EMS SQL Angel policies will be stored in this table.

Switch to Saved Configuration
Enable this option to move current configuration to another location and apply it, otherwise configuration will be saved (exported) to the specified location.

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8.2 Options

This tool allows you to customize general options of SQL Angel. To open the tool use **Environment options** SQL Angel Console menu item.

Security
Options

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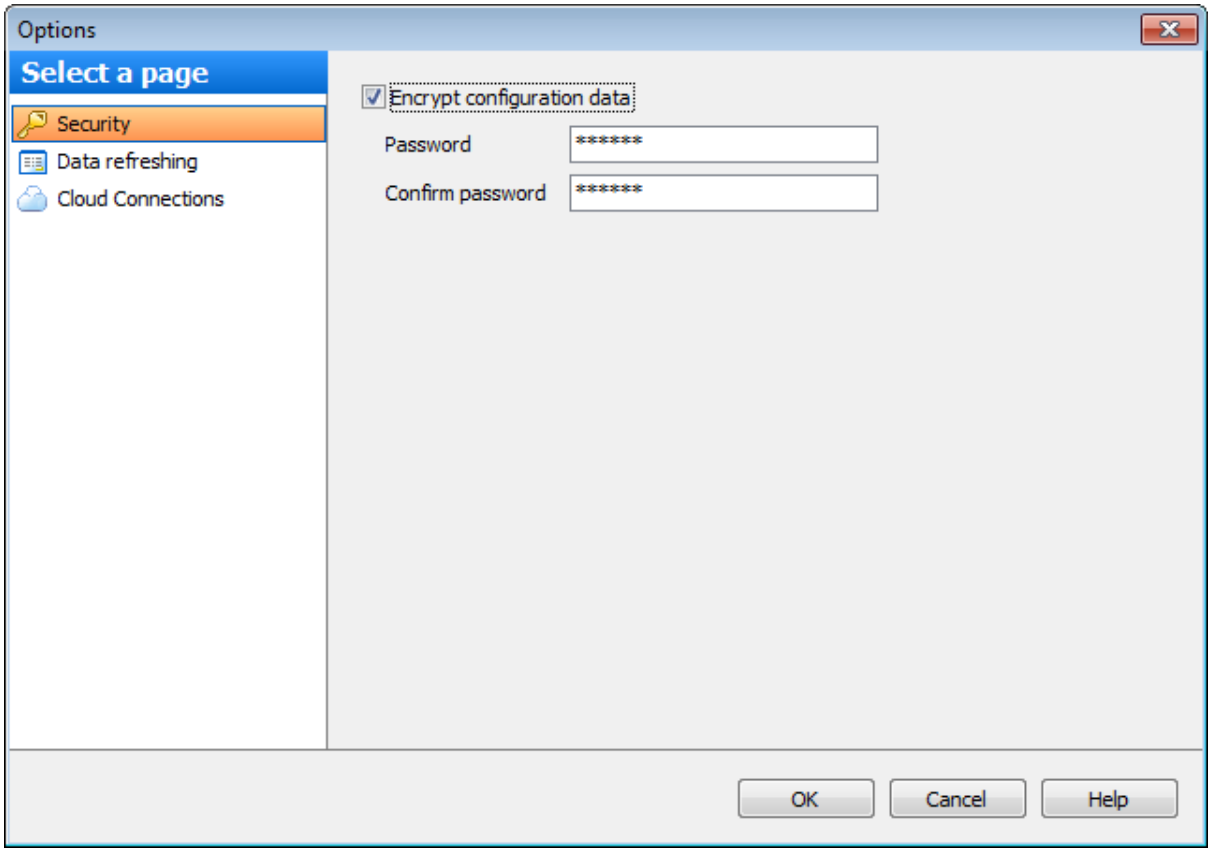
8.2.1 Security

Security options allow you to set the security parameters for configuration data.



Encrypt Configuration Data
If this option is ON the configuration data is encrypted. The password is prompted on program launch when configuration information is loaded.

Password
Set password that is used for configuration encryption.

Confirm password
Confirm the password specified as an encryption password above.

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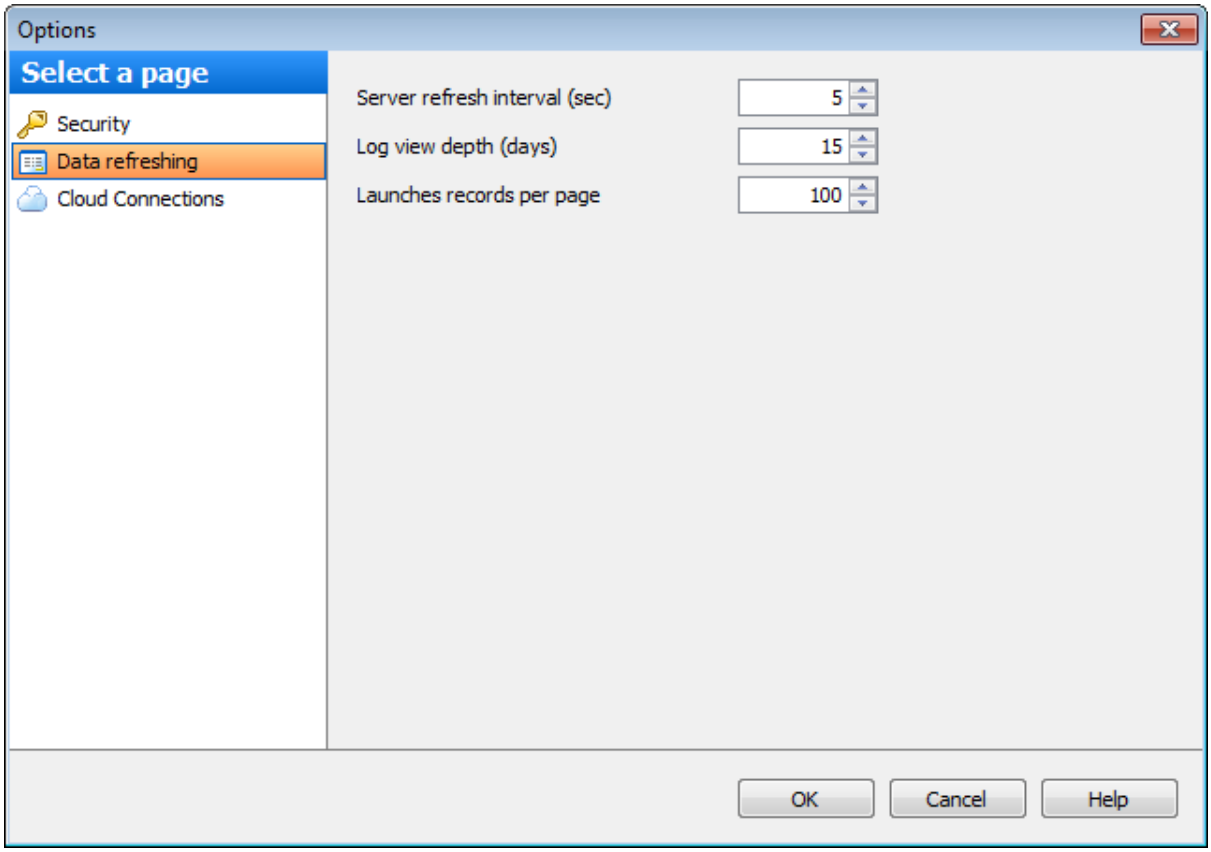
8.2.2 Data refreshing

Data refreshing tab allows customizing some program settings.



Server refresh interval (sec)
Set the interval (in seconds) for refresh of servers at the Servers tab.

Log view depth (days)
Set the limit of days for displaying server history and Launches.

Launches records per page
Specify the number of records that is loaded at once in the Launches section.

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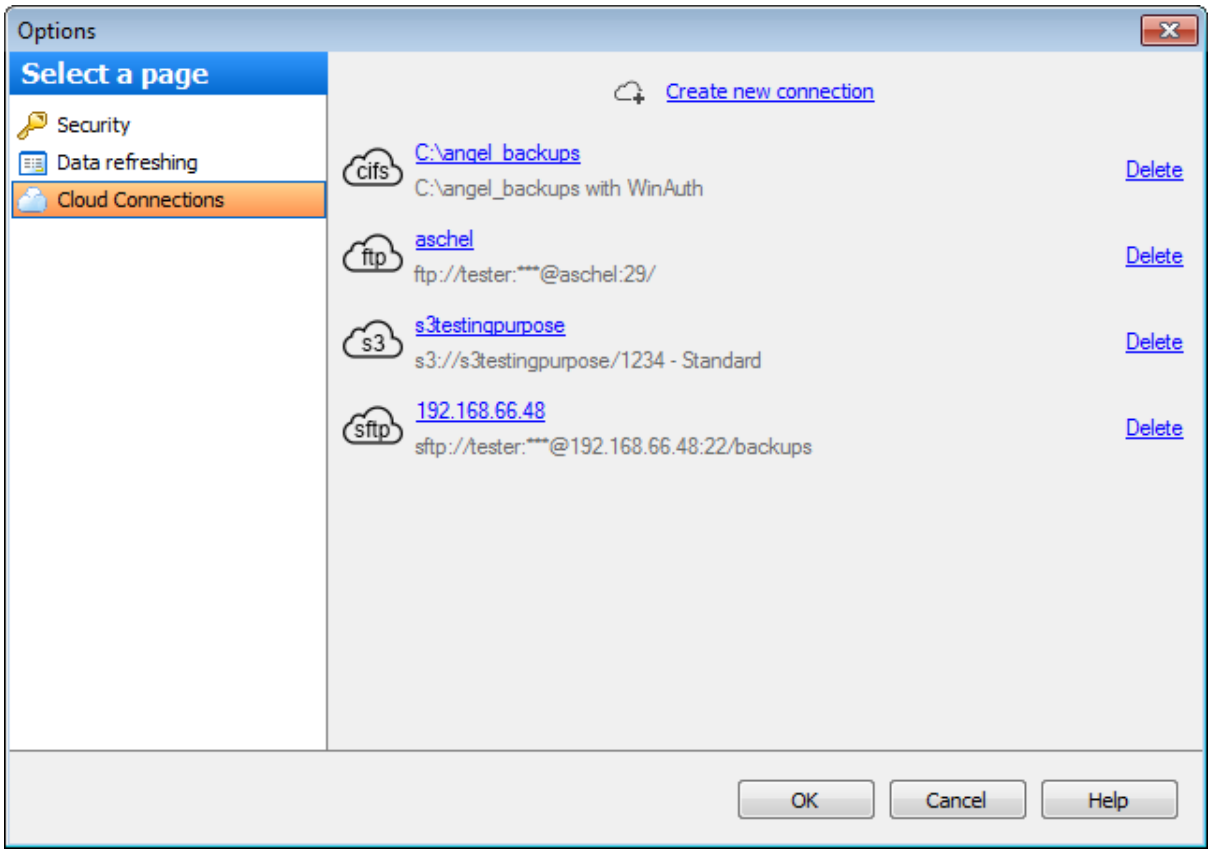
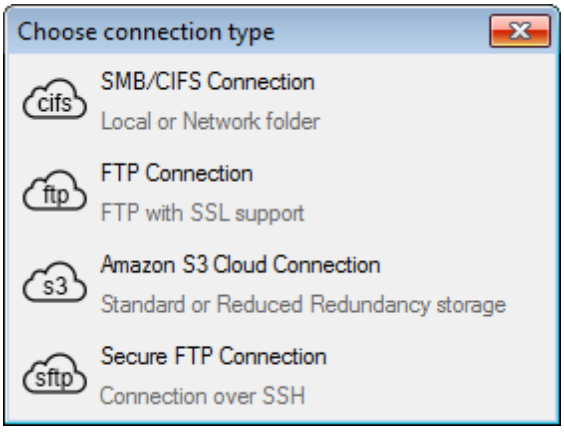
8.2.3 Cloud Connections

Cloud Connections tab allows you to set connections parameters to external storages for your backups. When configuring backup operation you will be offered to select storage for backup files copies among those which are defined here. The selection is performed on the Specifying cloud connections step of the Backup wizard.



To add a storage to the list click the **Create new connection** button. In the opened window select the needed connection type.



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- SMB/CIFS Connection
  Select this item to create a folder for backups on a local or network storage.

- FTP Connection
  Select this item to create a folder for backups on FTP server. FTP with SSL (Implicit and Explicit) is available.

- Amazon S3 Cloud Connection
  This connection is used for storing backups in Amazon S3 bucket.

- Secure FTP Connection
  Choose this connection if you want to store backups on SFTP server. Connection is established over SSH channel.

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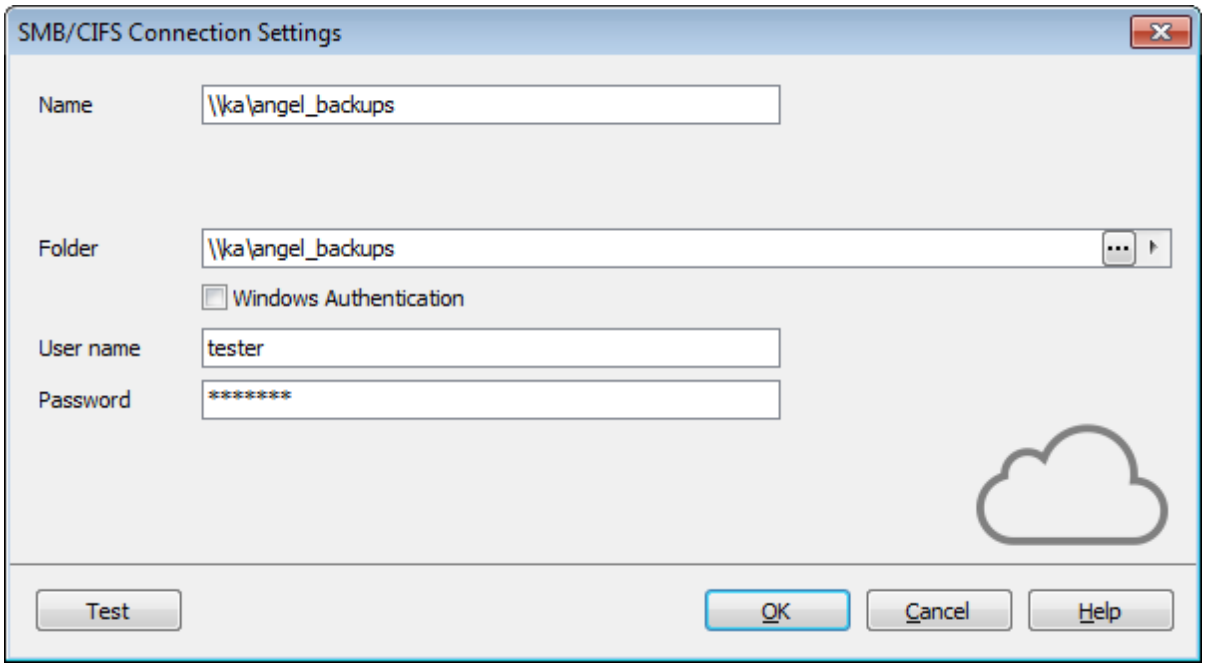
8.2.3.1 SMB/CIFS Connection

The **SMB/CIFS Connection Settings** dialog is provided for configuring local or remote network folders.



Name
Specify the name for the connection. The connection name must be unique among all that were already created.

Folder
Specify the local or network folder for storing backup copies. Use the ellipsis button to browse for directory. By clicking the button you can open the specified directory. Note that a path to a network folder must be specified in the UNC format.

Set the authentication parameters for uploading backup files to the specified directory. Note that the specified user should have sufficient rights to write to the target folder. You can choose **Windows Authentication** or provide **User name** and **Password** in the corresponding fields.

You can check the access to the specified folder by clicking the **Test** button. You will be offered to select servers over which the connection should be checked.

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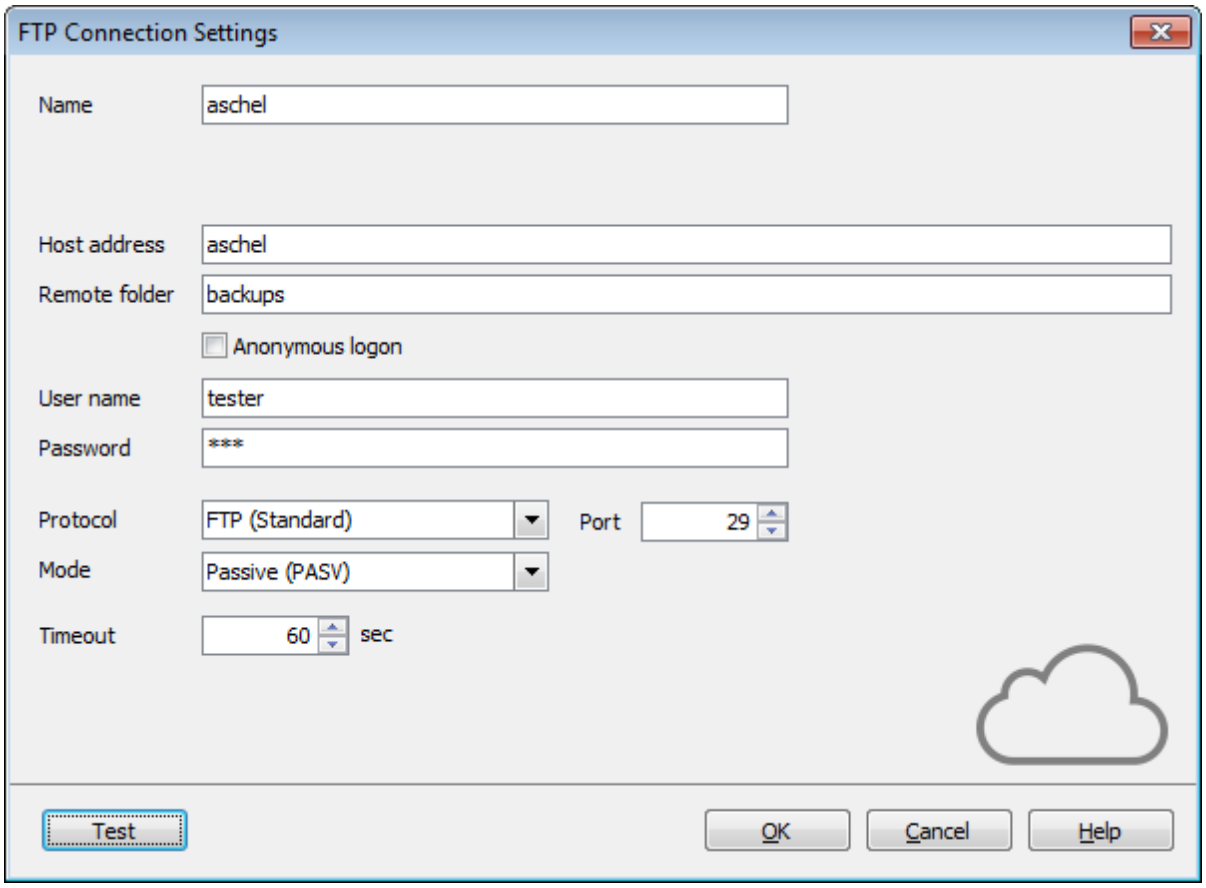
8.2.3.2 FTP Connection

The **FTP Connection Settings** dialog is provided for configuring FTP Server connection for uploading backup files.



Name
Specify the name for the connection. The connection name must be unique among all that were already created.

Host address
Define the FTP host address. Here you can enter server name or its IP address (without specifying protocol).

Remote folder
Define the directory on the FTP server where backup files will be uploaded. If the specified directory does not exist on the server it will be created on the first upload process.

Set the authentication parameters for uploading backup files to the specified FTP server. Note that the specified user should have sufficient rights to write to the target folder. You can choose ☑ **Anonymous logon** or provide **User name** and **Password** in the corresponding fields.

Protocol

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Select the protocol that should be used for backup files transferring. The possible values are:
- *FTP (Standard)*
- *FTPS (Implicit SSL/TLS)*
- *FTPS (Explicit SSL/TLS)*

Port
Specify the port the FTP connection should be executed through.

Mode
Select the mode of the FTP connection. The possible values are:
- *Passive (PASV)*
- *Active (PORT)*

Timeout
Specify the timeout in seconds when a connection will be timed out because of inactivity on the data channel.

You can check the access to the specified folder by clicking the **Test** button. You will be offered to select servers over which the connection should be checked.
If the specified remote folder does not exist it will be created on performing test access.

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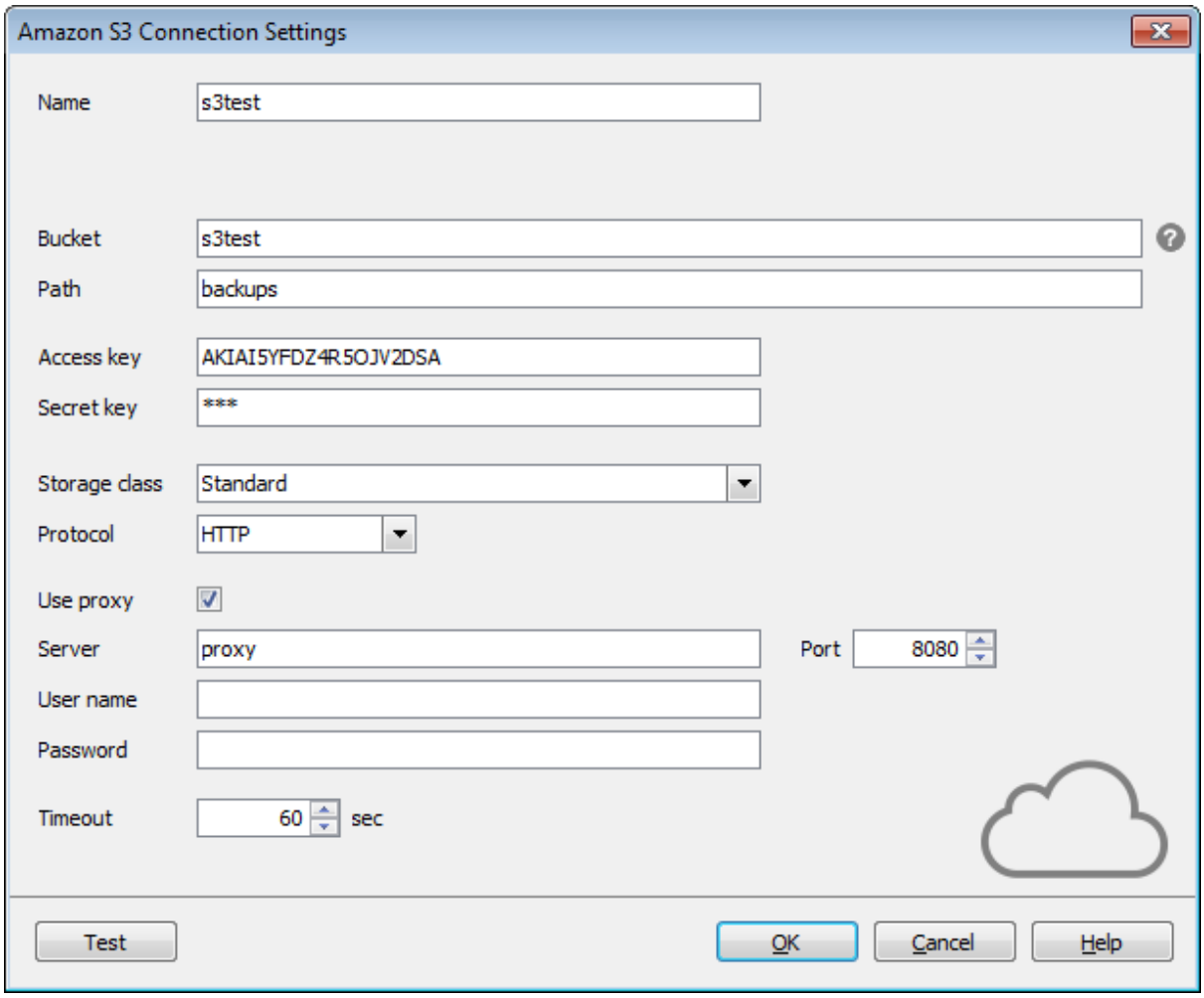
8.2.3.3 Amazon S3 Cloud Connection

The **Amazon S3 Connection Settings** dialog is provided for configuring connection to Amazon bucket for uploading backup files.



Name
Specify the name for the connection. The connection name must be unique among all that were already created.

Bucket
Define the bucket that will be used for storing backups. You can create a bucket on the Amazon website. If the specified bucket does not exist it will be created automatically in US Standard region. Note that the bucket name must be unique among all Amazon S3 buckets.

Path
If you want backup files to be stored in a folder then set the path to the folder within the specified bucket. The folder will be created automatically on file upload. Use the '/' as a directory separator. For example, *'backups/Adventure Works'*.

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The **Access key** and the **Secret key** are used to get access to your bucket and are found on the Security Credentials page of your Amazon Web Services account.

Storage class
Select the storage class for uploaded backup files. The possible values are:
- *Standard*
- *Reduced Redundancy*

Protocol
Select the protocol that will be used for uploading backups to Amazon S3. The possible values are:
- *HTTP*
- *HTTPS*

If you have checked the **Use proxy** option to connect to Amazon S3 you need to configure the following proxy settings: *Server*, *Port*, *User name and Password*.

Timeout
Specify the timeout in seconds when a connection will be timed out because of inactivity on the data channel.

You can check the access to the specified bucket by clicking the **Test** button. You will be offered to select servers over which the connection should be checked.
If the specified bucket does not exist it will be created on performing test connection.

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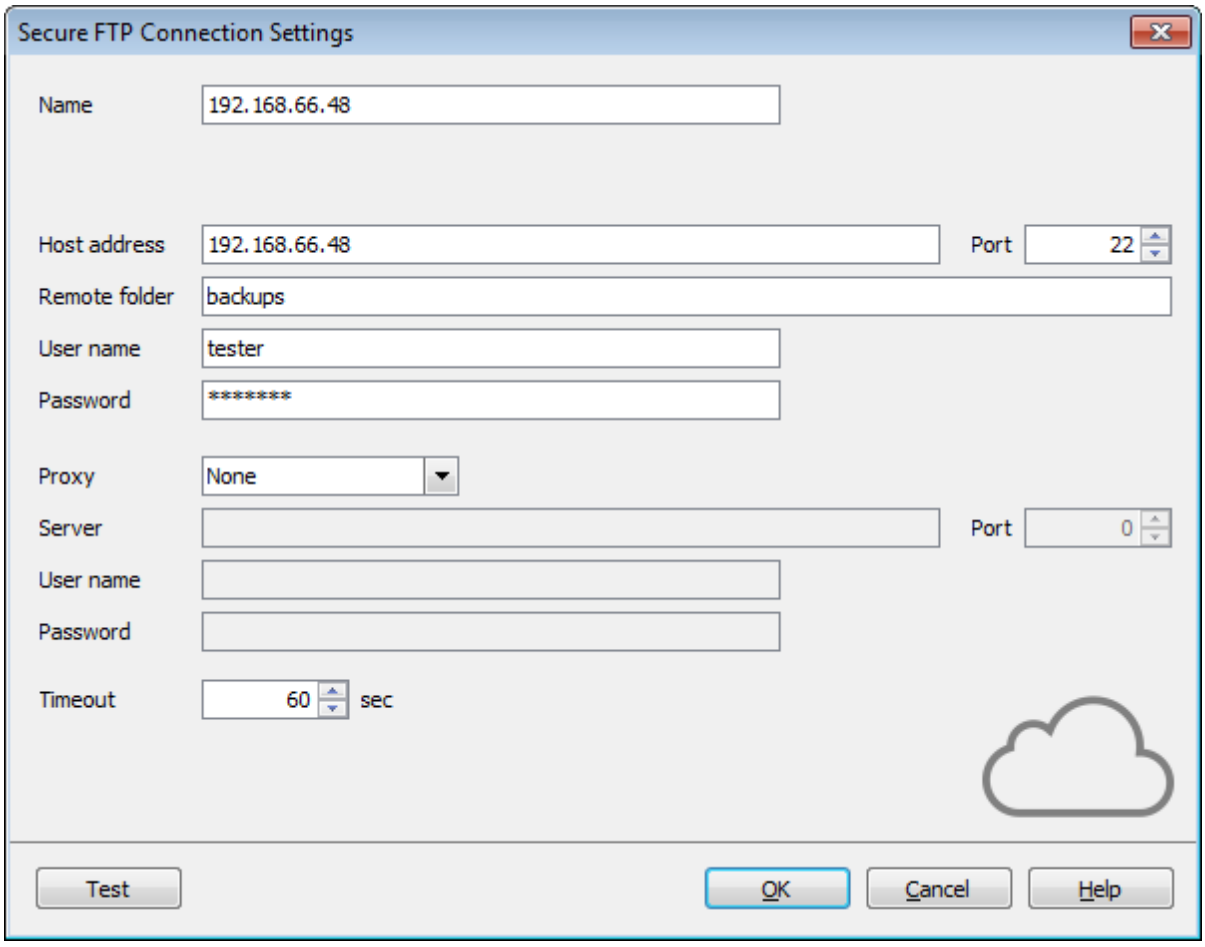
8.2.3.4 Secure FTP Connection

The **Secure FTP Connection Settings** dialog is provided for configuring SFTP (Secure File Transfer Protocol) server connection for uploading backup files.



Name
Specify the name for the connection. The connection name must be unique among all that were already created.

Host address
Define the SSH host address. Here you can enter server name or its IP address (without specifying protocol).

Port
Specify the port the SFTP connection should be executed through.

Remote folder
Define the directory on the SFTP server where backup files will be uploaded. If the specified directory does not exist on the server it will be created on the first upload process.

Set the authentication parameters for uploading backup files to the specified SFTP server.

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Note that the specified user should have sufficient rights to write to the target folder. Provide **User name** and **Password** in the corresponding fields.

Proxy
Select the proxy through which the connection to the SFTP server will be established. The possible values are:

- *Socks 4*
- *Socks 5*
- *HTTP*

If you have selected to connect through proxy to SFTP you need to configure the following proxy settings: *Server*, *Port*, *User name and Password*.

Timeout
Specify the timeout in seconds when a connection will be timed out because of inactivity on the data channel.

You can check the access to the specified folder by clicking the **Test** button. You will be offered to select servers over which the connection should be checked.
If the specified remote folder does not exist it will be created on performing test access.

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Part

9 How to...

The succeeding pages of this chapter are intended to provide you with brief instructions on how to perform this or that operation correctly using SQL Angel.

Install SQL Angel
Install server-side components without having permissions for remote installation
Activate SQL Server instance
Schedule backup database task daily
Configure transaction log shipping
Monitor server productivity counters
Create a policy based on predefined templates
Add database/server to an existing policy
Create a policy rapidly on sevreral servers/databases
Transfer policy tasks to another set of databases/servers
Reveal a reason of a failed policy execution
Restore successful policy status
Convert SQL Server maintenance plan to SQL Angel policy
Manage templates effectively
Configure policy notifications
Create a report on policy execution
Ensure simultaneous policy execution on servers from different time zones
Update SQL Angel
Remove SQL Angel

See also:

Getting Started
Servers
Policies
Templates
Activities
Maintenance Actions

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9.1 Install SQL Angel

EMS SQL Angel consists of two core units: SQL Administration Console and Server-side components. So to perform a full installation and start working with SQL Server in SQL Angel Console you need:

1. Install SQL Angel Administration Console.
2. Register server using the Register Server Wizard. To launch it use the **Register Server** context menu item of the Server Explorer.
3. Connect to the server using the **Connect** item of its context menu.
4. After server registration you need to install server-side components. To launch the Install Server Components wizard use the **Install server-side SQL Angel components** server context menu item.

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9.2 Install server-side components without having permissions for remote installation

If you do not have permissions for a remote installation of server-side components using Install Server Components wizard you can install them locally on the server using the Stand-alone remote components Installer.

In order to perform server-side components installation locally on the server do the following:
1. copy SQL Angel setup file to the server machine.
2. launch the SQL Angel setup wizard and choose the Server-side only mode on the third step.
3. after the EMS SQL Angel Setup wizard is finished the Stand-alone remote components Installer is launched automatically.
4. follow the steps of the wizard in compliance with Stand-alone remote components Installer topic.

Note: The SQL Angel setup wizard installs SQL Angel Service Installer application (*InstallWizard.exe*)which allows installing, updating and removing server-side components locally on a server.

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9.3 Activate SQL Server instance

License activation for SQL Server instance is performed by means of License activation wizard. Use the **Activate SQL Angel Service...** server context menu item to launch this wizard.

There are four methods of activating license on SQL Server instance:
- online activation;
- e-mail activation;
- web-site activation;
- manual activation.

Online activation

1. On the first step of the wizard select the **Activate EMS SQL Angel License online** option.
2. On the second step of the wizard enter **License Key**. It can be copied from the Members Area or from the e-mail that is received after license purchasing.
3. On the third step configure Internet connection settings.
4. On the last step click the **Finish** button to complete the activation.

E-mail activation

1. On the first step of the wizard select the **Activate EMS SQL Angel License by e-mail** option.
2. On the second step of the wizard enter **License Key**. It can be copied from the Members Area or from the e-mail that is received after license purchasing.
3. On the third step e-mail message configuration is provided. You need to send e-mail to support@sqlmanager.net in order to get license activation code. If you click the **Create email automatically** button an e-mail activation message will be generated automatically in the default email client.
4. After a while you will receive a confirmation email message with your license activation code. Please note that confirmation email message will be sent to the address you provided during the product purchase process.
5. On the fourth step enter the received code in the **License Activation Code** field.
6. On the last step click the **Finish** button to complete the activation.

Web-site activation

1. On the first step of the wizard select the **Activate EMS SQL Angel License through our website** option.
2. Register in the Members Area at https://secure.sqlmanager.net/login and open **My Registered Products** section.
3. Expand key list for desired product and choose the **Activate License** action.
4. Enter automatically generated **SQL Server instance ID** on the second step into a web form and generate the activation code.
5. Copy the generated activation code in the **License Activation Code** field on the third step.
6. On the last step click the **Finish** button to complete the activation.

Manual activation

1. On the first step of the wizard select the **Enter existing license activation code manually** option.
2. On the second step enter **License Activation Code**.
3. On the last step click the **Finish** button to complete the activation.

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9.4 Schedule backup database task daily

If you want a backup database task to be executed daily you need to create a policy with a Backup Database step and a schedule with appropriate parameters.

In order to do this perform the following operations:

1. choose the database in the server explorer and select the **Maintenance Policies | Create New Policy** item of its context menu;
2. on the second step of policy wizard select the **Steps** section and click the **Add** button;
3. in the **Select Step** dialog select the **Backup Database** item;
4. in the Backup Database step wizard opened configure backup settings; after all wizard steps completion the *Backup Database* step appears in the **Steps** list;
5. select the **Schedules** section and click the **Add** button;
6. in the opened Schedule editor set the following parameters:
   - **Schedule type** - *Recurring from date*,
   - **Occurs** - *Daily*,
   - **Recurs every** - *1 day*,
   - **Daily frequency** - *Occurs once at*,
   - **Occurs once at** - launch time for backup database task execution;

   then press the OK button
7. complete all steps of the policy wizard.

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9.5 Setup uploading backup files to different storage locations (Network folders/FTP/SFTP/Clouds)

SQL Angel provides the possibility to save backup files not only in the standard backup folder but also upload their copies to different external storages.
If you want to configure uploading of backup files to different storages perform the following actions.

1. Open the Options dialog and proceed to the Cloud Connections tab.
2. Click the **Create new connection** button and select the connection type in the opened dialog: SMB/CIFS, FTP, Amazon S3 Cloud, Secure FTP.
3. Depending on the type selected the relevant dialog for configuring connection properties appears.
4. After all connection properties are set click the **OK** button. The specified connection appears in the list of Cloud connections.
5. After that on configuring backup operation proceed to the Specifying cloud connections step of the wizard and click the **Add existing connection** button.
6. Select the connection from the list. You can add as many connections as you need.

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9.6 Create a policy based on predefined templates

There is a set of predefined policies, tasks, steps and schedules in EMS SQL Angel that can be used for rapid maintenance policy creation.

All predefined templates with descriptions can be found on the Templates tab.

In order to add a predefined task to a policy you need to proceed to the second step of the Policy wizard, select the **Tasks** section, click the **Create New from Template** button and select the needed task template.

In order to add a predefined step to a task in a policy you need to proceed to the second step of the Policy wizard, select the **Steps** section, click the **Create New from Template** button and select the needed step template.

In order to add a predefined schedule to a task in a policy you need to proceed to the second step of the Policy wizard, select the **Schedules** section, click the **Create New from Template** button and select the needed schedule template.

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9.7 Configure transaction log shipping

To configure transaction log shipping from one server to another you need to create a policy with a Transaction Log Shipping step.

On the second step of the Transaction Log Shipping wizard you need to set pairs of databases for transaction log shipping. The destination database must be the restored copy of the source database and be in *Restoring* state. Otherwise use the **Overwrite** (to rewrite database) or **Create new** options.

On the third step of the wizard specify the directory on the source server for storing transaction log backups of the source database. Also, set backup parameters.

On the fourth step you need to set the backup shared folder (**Network shared folder**) for copying transaction log backups of the source database. Backup files will be transferred to the directory set in the **Destination folder** field. Both source and destination servers should have access to this folder otherwise log shipping cannot be performed.

If you are creating or overwriting a database then after Transaction Log Shipping wizard completion the full source database backup copy is created on a destination server. The destination database is in the restoring state. Transaction log shipping will be performed according to the schedule set in the service task.

Note: On the first step of the policy with Transaction Log Shipping step you need to set **Use local Console time as absolute time** option.

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9.8 Monitor server productivity counters

Using the Database Parameters Logger maintenance operation you can monitor database parameters and receive notifications when their values do not match specified conditions.

To receive warnings about possible faults you need to include Database Parameters Logger step in a policy. Also you can execute this maintenance action by selecting **Quick Maintenance Actions | Database Parameters Logger** context menu item of a server or a database.

In case a status of a policy including **Database Parameters Logger** step changed to *Warning* after policy execution that means some databases parameters values do not match conditions set on the third step of Database Parameters Logger wizard. To view these parameters and their values select this step in the Launches list and click the **Show details** button. The information in the dialog appeared will contain a detailed report on step execution result.

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9.9 Add database/server to an existing policy

There are several ways to add databases or servers to a policy. The way chosen depends on whether the policy was created on a solution or not and on tasks and steps count in a policy.

A policy was created on a solution with databases/servers

1. If a policy includes a big number of tasks (steps) then do the following:
   - create a template based on this policy (without saving selected databases) by choosing the **Create Template from Policy** its context menu item;
   - add needed databases/servers to the existing solution;
   - create policy on a renewed solution based on the created template by choosing the **Maintenance Policies | Create from Templates** of the solution context menu item.
2. If a policy includes several tasks (steps) then it is recommended to open every step editor and check needed databases/servers on a **Selection** tab.

A policy was created on separate databases/servers

1. If a policy includes a big number of tasks (steps) then it is recommended to do the following:
   - unite databases/servers from this policy into a solution and then add needed databases/servers to it;
   - create a template based on this policy (without saving selected databases) by choosing the **Create Template from Policy** its context menu item;
   - create a policy based on this template on the created solution by using the **Maintenance Policies | Create from Templates** solution context menu item.
2. If a policy includes several tasks (steps) then it is recommended to open every step editor and check needed databases/servers on a **Selection** tab.

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9.10 Create a policy rapidly on several servers/databases

The most efficient way to create a policy rapidly on several servers/databases is to create it on a solution that unites these servers/databases.

In order to create a policy rapidly on several servers or databases perform the following operations:

1. create a solution by selecting **Create Solution** context menu item of **Solutions** section;
2. move needed databases/servers to this solution;
   Note: One solution cannot include both databases and servers.
3. Select the **Maintenance Policies | Create New Policy** solution context menu item to create a new policy. All databases/servers will be checked automatically in creating steps in this policy.

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9.11 Transfer policy tasks to another set of databases/servers

There are several ways to transfer policy tasks from one set of databases/servers to another. The way chosen depends on whether the policy was created on a solution or not and on tasks and steps count in a policy.

A policy was created on a solution with databases/servers

1. If a policy includes a big number of tasks (steps) then do the following:
   - create a template based on this policy (without saving selected databases) by choosing the **Create Template from Policy** its context menu item;
   - create a new solution and add needed databases/servers to it;
   - create policy on this solution based on the created template by choosing the **Maintenance Policies | Create from Templates** of the solution context menu item.
2. If a policy includes several tasks (steps) then it is recommended to open every step editor and check needed databases/servers on a **Selection** tab.

A policy was created on separate databases/servers

1. If a policy includes a big number of tasks (steps) then it is recommended to do the following:

- unite databases/servers on which you want to transfer policy into a solution;
- create a template based on this policy (without saving selected databases) by choosing the **Create Template from Policy** its context menu item;
- create a policy based on this template on the created solution by using the **Maintenance Policies | Create from Templates** solution context menu item.

2. If a policy includes several tasks (steps) then it is recommended to open every step editor and check needed databases/servers on a **Selection** tab.

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9.12 Reveal a reason of a failed policy execution

If a server has at least one policy with status *Failed* then the server status contains **Policies have problems** message.

To reveal a policy with erroneous execution you need to find a policy with a *Failed* status in the Policies list. This status means that at least one policy task execution was erroneous.

When you select this policy task in the Policies list the Launches list shows information on all task launches. Select a task with a *Failed* status and click the **Show details** button in the *Message* column. In the dialog appeared the reason of failed execution will be displayed in the **Message** field

If the problem occurred on policy execution has been resolved you can restore succeeding policy status.

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9.13 Restore successful policy status

If you have revealed a reason of why a policy did not run or failed after execution you can repair its overall status that means to change erroneous policy statuses (*Failed*, *Missed*, *Aborted* and *Warning*) to *Ignored* and repeat erroneous tasks if needed. This can be done on several ways.

- Click the **Resolve** button located under the server status. In the dialog appeared all problem tasks of all policies will be listed. You can change erroneous status to *Ignored* and/or execute all problem tasks of all policies. In this case overall status of every policy will be changed based on last launches of erroneous tasks.
- Select the erroneous policy in the Policies list and then choose the **Resolve the Problem** item of its context menu. In the opened dialog you will be proposed to change statuses of all erroneous policy tasks to *Ignored* and/or execute all problem tasks of this policy. In this case overall status of this policy will be changed based on last launches of its erroneous tasks.
- Select the erroneous policy task in the Policies list and then choose the **Resolve the Problem** item of its context menu. In the opened dialog you will be proposed to change status of this erroneous policy task to *Ignored* and/or repeat its execution. In this case overall status of this policy will be changed based on a last launch of this erroneous task.

Using a context menu of an erroneous task in the Launches list you can change to *Ignored* (**Ignore Errors for Selected Launches**) its status or statuses of all erroneous tasks (**Ignore Errors for All Problem Launches**).

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9.14 Convert SQL Server maintenance plan to SQL Angel policy

Configured SQL Server maintenance plans can be used in SQL Angel after their conversion to SQL Angel policies.

To convert SQL Server maintenance plan to SQL Angel policy perform the following operations:

1. Select the **Maintenance Policies | Convert from Maintenance Plan** server context menu item to launch Maintenance plan conversion wizard.
2. On the second step of the wizard select the maintenance plan for conversion.
3. On the third step of the wizard you can view conversion results. Maintenance plan subplans are converted to policy service tasks. In case some mistakes occurred on maintenance plan conversion you can correct them in the policy editor that is launched by clicking the **Edit Policy** button.
4. It is recommended to check the **Disable Maintenance plan** option to disable tasks execution in maintenance plan being converted.
5. On the last step view conversion settings and click the **Finish** button. Created policy appears in the list on the **Policies** tab.

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9.15 Manage templates effectively

Using the templates tool of SQL Angel you can create saved into SQL Angel configuration policies, tasks, steps and schedules settings.

In order to create a template proceed to the **Templates** tab and choose an object type (policy, task, step or schedule) which template you want to create. Then click the **Add** button located on the toolbar or in the context menu.

If you already have a configured policy on a group of databases or servers you can create its template. In order to do this proceed to the **Policies** tab and select the **Create Template from Policy** its context menu item.

Also you can create templates of existing tasks, steps and schedules. To do this you need to:

- open the policy including these objects in the policy editor;
- select the **Copy to Templates** context menu item of the object which template you want to create.

All saved templates can be later used for creating policies.
In order to create a policy based on a template you need to select the **Create Policy from Template** context menu item of a policies list on the **Policies** tab. In the **Item Selection** dialog choose the needed template (or several templates). The policy editor will be opened. All tasks included in the template will be automatically added to the policy being created.

In order to create a task/step/schedule based on a template in a policy use the **Add New from Template** context menu item or the toolbar corresponding button on the second step of the policy wizard. The added object can be opened in its editor afterwards to change some parameters if needed.

Templates tab contains a list of all predefined templates as well as templates created by user. You can save a template into **.xml* file by selecting the **Export** its context menu item. Also you can load saved templates using the **Import** button. This ability allows copying templates from one SQL Angel configuration to another.

See also:
Create a policy based on predefined templates

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9.16 Configure policy notifications

You can configure notifications that will inform you about policy execution result via e-mail.

Notification parameters are set on the third step of the policy wizard.

You need to set an action on which notifications should be sent:
- **When the policy succeeds** - send the message when policy tasks have been successfully completed;
- **When the policy fails** - send the message when policy has failed;
- **When the policy completes** - send the message when policy has been launched.

In the **Send E-mail To** field enter the e-mail address of the administrator that should receive messages generated on policy execution.

SQL Server Agent must be configured to use Database Mail for sending e-mail.

Note: Email agent options should be set for the service at Service properties.

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9.17 Create a report on policy execution

Using the reports tool you can view information on policy tasks execution that is displayed in the Launches section as well as save reports to files of different formats and send them via email.

To generate a report on task execution you need to click the **Report** button on the toolbar of the Launches section or select the **Show Report** context menu item of a task.

There are three types of reports:

- Single-server report
- Multi-server report
- Detailed task report

Single-server report

This report can be viewed when a single server is selected in the explorer and a policy deployed on this server is selected in the Policies area. If a policy deployed on several servers is selected in Policies area a report will include information on launches of this policy only on the selected server. The report displays brief information on tasks of the selected policy including *task name*, *planned start*, *time started*, *time finished* and *task status*.

Multi-server report

Multi-server report is available when a policy deployed on multiple servers is selected in the Policies area. Besides, a group or a solution must be selected in the Servers area. The report displays brief information on tasks of the selected policy including *task name*, *server name*, *planned start*, *time started*, *time finished* and *task status*.

Detailed task report

Task report is available when a particular task is selected in the Policies area. This report displays a detailed information on a task and its steps of the selected policy including *task name*, *planned start*, *time started*, *time finished, task/step status* and *execution message (information, warning or error)*.

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9.18 Ensure simultaneous policy execution on servers from different time zones

To ensure simultaneous policy tasks launches on servers located in different time zones you need to select the **Use local Console time as absolute time** option on the first step of the policy wizard.

In this case a policy will be executed on all servers at the time corresponding to the local SQL Angel Console taking into consideration time zones where servers are located.

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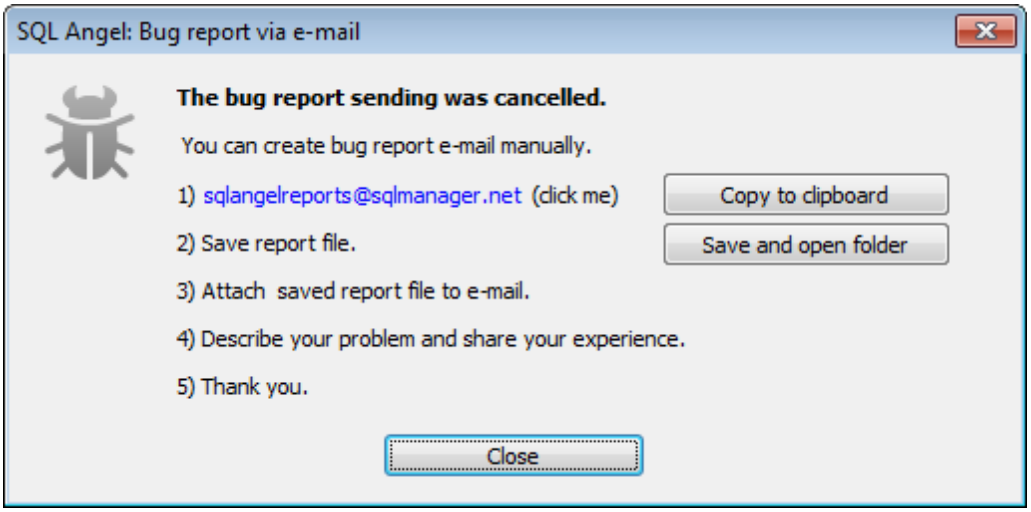
9.19 Report bugs and suggestions

If you want to report a bug occurred in the application or just provide some feedback you can do it directly from the SQL Angel. Before reporting bugs and suggestions make sure you are using the latest version of the SQL Angel.

To create an e-mail with attached bug report files automatically do the following:
1. select the server on which the problem occurred in the Servers tree;
2. choose the **Send bug report to EMS** its context menu item;
3. after a while the default mail client installed on your computer will be opened with newly created letter having bug report files attached to it;
4. in the generated e-mail describe the steps to reproduce the occurred bug and send the letter.

If due to some reasons the e-mail creation failed or the report sending was cancelled the following dialog appears.


SQL Angel: Bug report via e-mail
The bug report sending was cancelled.
You can create bug report e-mail manually.
1) sqlangelreports@sqlmanager.net (click me)
Copy to clipboard
2) Save report file.
Save and open folder
3) Attach saved report file to e-mail.
4) Describe your problem and share your experience.
5) Thank you.
Close

Follow the given instructions to create bug report e-mail manually:
1. click the "mailto:" link sqlangelreports@sqlmanager.net to open mail client, or in case no client has been opened copy the address by clicking the **Copy to clipboard** button and create e-mail in a preferable client;
2. click the **Save and open folder** button and define the directory where the bug report file should be saved; after the file is saved the defined directory will be opened automatically;
3. attach the saved file to the created e-mail;
4. describe the steps to reproduce the occurred bug and send the letter.

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9.20 Update SQL Angel

SQL Angel update process consists of SQL Angel Administration Console and Server-side components update.

In order to update SQL Angel Administration Console, please, do the following:
- download the full installation package of SQL Angel from the download page available at our site;
- close SQL Angel application if it is running;
- repeat the steps you have made for the first-time installation;
- run SQL Angel using its shortcut in the corresponding group of Windows Start menu.

After SQL Angel Administration Console is launched you will be warned that server-side components version is out-of-date. You will be offered to update server-side components. This is done by means of Update/Remove Server-side SQL Angel components wizard.

If you do not have permissions for remote update of server-side components via SQL Angel Administration Console you can copy SQL Angel setup file to the server machine and run installation there. Server-side components update process locally on a server is similar to their installation process and is performed by means of Stand-alone remote components Installer. To update server components you need to select the **Modify** option on the second step and the Update action on the third one.

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9.21 Remove SQL Angel

In order to remove SQL Angel perform the following operations:

1. Remove server-side components from all servers they were installed. This is done by means of Update/Remove Server-side SQL Angel components wizard that is launched by selecting the **Update/Remove SQL Angel Server Components** server context menu item.
2. Remove SQL Angel Administration Console from your computer via Control Panel -> Programs and Features.

Note: If you do not have permissions for remote of server-side components uninstall via SQL Angel Administration Console you can copy SQL Angel setup file to the server machine and run installation there. Server-side components remove process locally on a server is similar to their installation process and is performed by means of Stand-alone remote components Installer. To remove server components you need to select the **Uninstall All** option on the second step.

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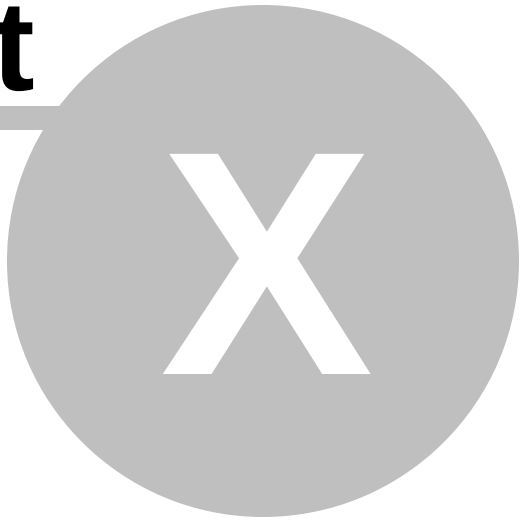
Part



10 Appendix

10.1 Database states

The general database status includes SQL Server database state (the database icon color or right-bottom corner icon) and policy status (the color of a shield in the left-top corner).

- database is in an emergency state and does not have policies
- database is in an emergency state and all policies have "succeeded" status
- database is in an emergency state and has failed policies
- database is in an emergency state and has some warnings on policy execution

- database is offline and does not have policies
- database is offline and all policies have "succeeded" status
- database is offline and has failed policies
- database is offline and has some warnings on policy execution

- database is online and does not have policies
- database is online and all policies have "succeeded" status
- database is online and has failed policies
- database is online and has some warnings on policy execution

- database is in a single user mode and does not have policies
- database is in a single user mode and all policies have "succeeded" status
- database is in a single user mode and has failed policies
- database is in a single user mode and has some warnings on policy execution

- database is in a recovering state and does not have policies
- database is in a recovering state and all policies have "succeeded" status
- database is in a recovering state and has failed policies
- database is in a recovering state and has some warnings on policy execution

- database is in a restoring state and does not have policies
- database is in a restoring state and all policies have "succeeded" status
- database is in a restoring state and has failed policies
- database is in a restoring state and has some warnings on policy execution

- database is suspect and does not have policies
- database is suspect and all policies have "succeeded" status
- database is suspect and has failed policies
- database is suspect and has some warnings on policy execution

- database is inactive

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10.2 Backup Converter Utility

"

This utility is used for converting SQL Angel backup files to standard MS SQL Server backup files. It is run in console mode only.

Usage:

<path to ConvertUtil.exe tool>\ConvertUtil.exe -I[nputFile]:file_name -O[utputFile]: file_name -D[atabases]:name[,...n] [-H[elp]|Help|-?] [-P[assword]:password]

The path to this utility is *"C:\Program Files\EMS\SQL Angel\Service\"*, on the machine where SQL Angel Console is installed; on the server - *"C:\Program Files\EMS\SQL Angel\Distrib\Service\"*

Where
-I[nputFile] stands for the SQLAngel backup file to be converted
-O[utputFile] sets the result name of SQL Server backup file
-D[atabases] sets database name(s), which data should be extracted

Optional parameters:
-H[elp]|Help|-? outputs reference information
-P[assword] sets the password to convert encrypted backups

Example:

"C:\Program Files\EMS\SQL Angel\Service\ConvertUtil.exe" -I: C:\Data\TEST.bkp O: TESTms.bak D:Employee,Departments P:8p5Zh79

Note: If SQL Angel backup is split into several files you only need to specify the first file from the chain, all subsequent files are processed automatically.

Note: If on backup you specified more than one threads at Defining SQL Angel settings, you will get n MS SQL backup files as a result of conversion. You will need to select all of those *n* files on restore by MS SQL Server means.

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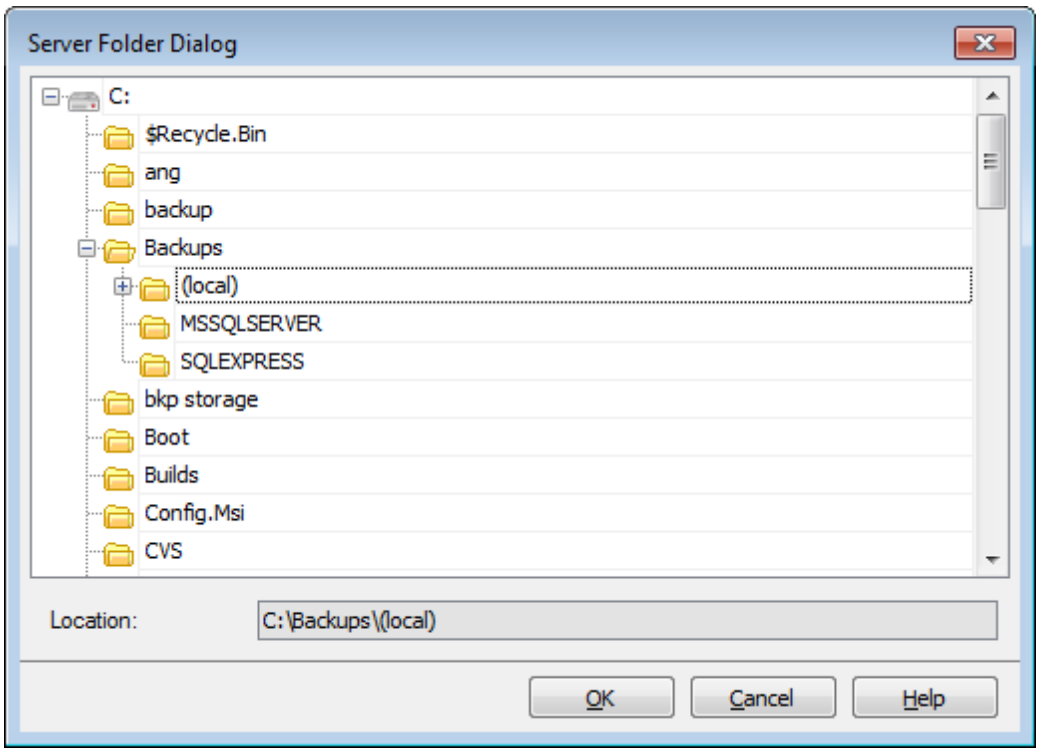
10.3 Server folder dialog

SQL Server Folders dialog allows you to browse directories on the server.



This dialog is opened on selecting server backups folder in:

- Backup settings tab of the Service properties dialog;
- Setting file options step of the Backup Database wizard and Backup file options tab of the Backup database step editor;
- Selecting available backup step of the Restore Database wizard;
- Selecting files/folders for cleanup step of the Maintenance Cleanup wizard and Selection tab of the Maintenance Cleanup step editor;
- Specifying backup options and Specifying folders and recovery options steps of the Transaction Log Shipping wizard and General tab of the Transaction Log Shipping step editor.

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